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The Call-A-Bus Demonstration Project - Specialized Transportation for the Elderly and Handicapped in Syracuse, New York

Final Report
June, 1977

Service and Methods Demonstration Program

U.S. DEPARTMENT OF TRANSPORTATION
Transportation Systems Center

Prepared for

Urban Mass Transportation Administration
Office of Transportation Management
and Demonstrations

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16. Abstract

This report describes, analyzes and evaluates the conduct and results of the Syracuse Call-A-Bus demonstration, in which special transit services were provided for the elderly and handicapped populations of Onondaga County, New York. These services included an advance-reservation door-to-door service for individual users and a group trip service for organizations. Subscription services were also provided. The demonstration was operated by CNY Centro, Inc., a transit operating subsidiary of the Central New York Regional Transportation Authority, during the period from October 1, 1973 to October 31, 1975. CNY Centro has continued to operate Call-A-Bus services under its own budget following the demonstration's termination.

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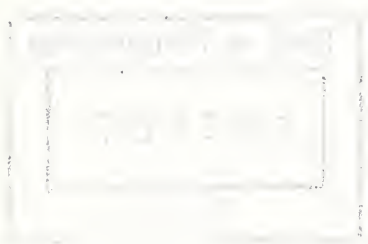

PREFACE

This report was prepared by the Central New York Regional Transportation Authority (CNYRTA) and SYSTAN, Inc. for the Transportation Systems Center (TSC) of the U. S. Department of Transportation (DOT). The report describes and evaluates the results of the Syracuse Call-A-Bus demonstration. The demonstration was operated by CNYRTA's operating subsidiary, CNY Centro, Inc., between October 1, 1973 and October 31, 1975.

SYSTAN, Inc. performed this work under U. S. Department of Transportation Contract Number DOT-TSC-1084, which provides for the evaluation of several Urban Mass Transportation Administration (UMTA) Service and Methods Demonstration (SMD) projects. Dr. Roy Lave and Michael Holoszyc prepared the final report. John Clare and John Przepiora of CNYRTA provided large amounts of background material for the report, and also helped to collect and assemble much of the data discussed in the report. Charles Williams, the Call-A-Bus Supervisor, provided additional information.

Charles Cofield and Marvin Futrell served as the demonstration project monitors for TSC and UMTA, respectively. Along with Robert Casey, who subsequently replaced Mr. Cofield as the TSC project monitor, these gentlemen helped to direct the evaluation and reviewed preliminary versions of this report.

METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
	LENGTH			
in	inches	2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
	AREA			
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha
	MASS (weight)			
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
	VOLUME			
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
	TEMPERATURE (exact)			
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
	LENGTH			
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
	AREA			
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
	MASS (weight)			
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
	VOLUME			
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3
	TEMPERATURE (exact)			
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F

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1. EXECUTIVE SUMMARY

1.1 PROJECT OVERVIEW

1.1.1 Demonstration Objectives, Issues and Scope

The Syracuse Call-A-Bus demonstration was part of the Service and Methods Demonstration (SMD) Program sponsored by the Urban Mass Transportation Administration. The primary objective of the demonstration was to improve transit service for the elderly and handicapped populations of Onondaga County, New York, so that they may lead more active and rewarding lives. A local objective was to determine the latent demand for transit service among the elderly and handicapped so that estimates of the resources required to meet their transportation needs could be made. CNY Centro, Inc., the operator of Call-A-Bus, also wished to gain experience in the provision of special services for the transit-dependent and Call-A-Bus provided an opportunity to acquire this experience. The effectiveness of an established public transit operator in providing a special service for the elderly and handicapped was a related issue. Other objectives of the project included the coordination of transportation supply between CNY Centro and social service agencies, and user acceptance of a specialized transit service in which they are segregated from the general riding public.

The Call-A-Bus demonstration operated over a 25-month period from October 1, 1973 to October 31, 1975; $500,000 was provided by federal, state, and local sources for operations, and almost $200,000 was provided for the purchase of four small buses. Since the demonstration's conclusion, CNY Centro has continued to operate the Call-A-Bus service with only slight cutbacks from demonstration service levels.

1.1.2 Demonstration Organization

The demonstration was planned and managed by the Central New York Regional Transportation Authority (CNYRTA), and operated by its transit operating subsidiary, CNY Centro, Inc. Five months prior to the start of the demonstration, CNYRTA established a Project Advisory Committee consisting of representatives of over 20 local social service agencies. This committee met monthly during the demonstration, and provided policy guidance to the CNYRTA on all aspects of Call-A-Bus service. It thus served as a mechanism for coordination between the public transit provider and social service agencies.

1.1.3 The Setting

Call-A-Bus service was provided throughout Onondaga County, New York, a 794-square mile area which contains the City of Syracuse, its suburbs, and considerable rural land. The target population (defined as those who are eligible for Call-A-Bus service, dependent upon transit, but cannot use the regular fixed-route system) was estimated to be approximately 27,000 persons. The total population eligible to use Call-A-Bus, including all persons over age 55 and persons with a physical or mental disability that prevented them from using transit, was approximately 90,000 persons.

1.1.4 Existing Supply of Transportation Services

Four types of transportation services were available to elderly and handicapped persons prior to Call-A-Bus: fixed-route bus services provided by CNY Centro, Inc., taxi service, wheelchair taxi service, and transportation provided by social service agencies. Characteristics of these services are summarized below.

ALTERNATIVE TRANSPORTATION MODES

	VEHICLES	FARES	APPROXIMATE OPERATING COST/PASSENGER-TRIP[2]	ELDERLY & HANDICAPPED PASSENGERS/ MONTH	H&E AS % OF TOTAL SERVICE RIDERSHIP
FIXED-ROUTE BUSES (CNY CENTRO)	170	35¢[1]	$0.46	135,000	15%
TAXIS	200	$1.50-1ST MI, PLUS 60¢/MILE	$1.87	36,000	25%
WHEELCHAIR TAXIS	20	$8-$12	$9.10	4,000	100%
SOCIAL SERVICE AGENCIES • WITH FLEETS	108	GENERALLY FREE	$1.47	43,500	100%
SOCIAL SERVICE AGENCIES PURCHASING TRANSPORTATION	-	GENERALLY FREE	$10.10	4,850	100%

[1] 15¢ OFF-PEAK FOR ELDERLY AND HANDICAPPED.

[2] REPORTED AVERAGES.

1.1.5 Demonstration Services

Call-A-Bus provided a number of services for the elderly and handicapped. Most of these services were grouped into what was called the "regular Call-A-Bus service."

Regular Call-A-Bus Service

The basic Call-A-Bus service was a door-to-door demand-responsive transportation system operated with four buses, plus an extra bus during periods of high demand. Originally, regular 50-passenger buses with kneeling devices were used, but four Mercedes-Benz minibuses were phased into operation in March 1975. All four small buses had wheelchair lifts, which enabled wheelchair transportation to begin on April 7, 1975. To avoid conflicts with local wheelchair taxi operators and to increase operating speed, wheelchair service had a "curb-service only" policy, in which drivers were not allowed to assist passengers to and from the bus, although they did assist in loading and disembarking.

To obtain service, users were required to phone in their request at least two days before the day of their desired trip, and often had to call nearly one week in advance in order to insure a reservation. Time slots were reserved for regularly-recurring trips, so telephone requests did not have to be made each time these trips were taken. In addition, several regular subscription tours were provided, in which a large number of persons traveled to and from a central location.

In December 1974, approximately halfway through the demonstration, daily Call-A-Bus service was restricted to residents of a 44-square mile area that included Syracuse and several adjacent suburbs. The remainder of the 794-square mile area was divided into five sectors, each served on one weekday. This change enabled the system to expand its capacity by concentrating trips within a smaller area. Furthermore, 70% of the County's elderly population resided within the new daily service area and were consequently not affected by the change.

Regular Call-A-Bus service fares were 50¢ for trips within the daily service area, and from $.60 to $1.00 for trips outside the City of Syracuse; the majority of users paid 50¢. This was higher than the regular CNY Centro fixed-route bus fare of 35¢, and considerably greater than the 15¢ fare available to the elderly and handicapped during off-peak periods. Call-A-Bus fares were set higher to encourage persons who could use the fixed-route system to do so.

For those unable to use regular buses or secure private transportation through access to an automobile or affiliation with a social service agency providing transportation, Call-A-Bus supplied the only low-cost transportation available. Door-

to-door service was offered for a fare that was about one-sixth of the cost of a taxi. For persons confined to wheelchairs who would require a special wheelchair taxi, the savings were even greater, since wheelchair taxi service in Syracuse costs $8.00 or more per one-way trip. However, wheelchair taxis usually provided services that Call-A-Bus did not, such as escorting passengers to and from the vehicle.

Group Trip Services

Call-A-Bus provided group trip services for groups of 15 or more elderly or handicapped persons. Sponsoring groups were charged half of the normal CNY Centro charter rate, or about half of the total cost, since charter rates reflect full costs. A typical group excursion cost the sponsoring organization about $25 instead of $50. All of Onondaga County was served, but no more than four predetermined pick-up and drop-off points were permitted.

Summer Camp Transportation

During the summers of 1973, 1974, and 1975, the Call-A-Bus program provided transportation of physically-disabled Syracuse children to Camp Goodwill, a special eight-week summer camp for handicapped children. In 1973, the Syracuse School District decided to stop offering this transportation, and Call-A-Bus assumed all costs that summer even though the demonstration had not yet officially begun. During the following two summers, Call-A-Bus assumed progressively smaller proportions of the costs. The City of Syracuse and Onondaga County paid the difference.

1.2 FINDINGS

1.2.1 Ridership and Market Penetration

Regular Service

Although very little advertising was done, regular Call-A-Bus service ridership grew rapidly in the early months of the demonstration, and subsequently operated near capacity during the day. Ridership continued to grow during the entire demonstration due to the addition of highly productive subscription tours. New demand was accommodated by use of an extra bus. During most of 1975, two daily subscription services accounted for about one-third of the total ridership. In the final month of the demonstration, 5,205 passengers were carried, the highest level recorded during the entire demonstration period.

To obtain information on users, a sample of regular Call-A-Bus service users -- excluding the day care center children -- was surveyed by mail after the demonstration. Two on-board surveys were also conducted.

The various surveys disclosed that 75% to 85% of all Call-A-Bus users were female. Market penetration was highest in the oldest age brackets: 25% of the users responding to the mail survey were 80 years of age or over, although this group made up only 8% of the total eligible population. There were relatively few users under age 65. Users tended to have very low incomes, usually consisting of social security payments or pensions. Household automobile ownership was reported by only one-third of the users.

Wheelchair ridership averaged about 120 trips per month, or about 2.7% of total ridership. Approximately 10% of the regular service ridership was either blind or infirm. Including persons with other disabilities, such as deafness, mental disabilities, etc., 20% to 25% of the regular service ridership was estimated to be disabled (25% to 30% of the ridership when day care center children were excluded).

Call-A-Bus users used the service predominantly for transportation to medical appointments, although the more frequent users reported a greater variety of trip purposes. In general, users reported that social, recreational, and personal business trips were likely to have been sacrificed if Call-A-Bus had not been available. The more essential trips, such as for work and employment, were likely to have been made without Call-A-Bus, but either more expensively (by taxi) or less conveniently (a regular bus or being driven).

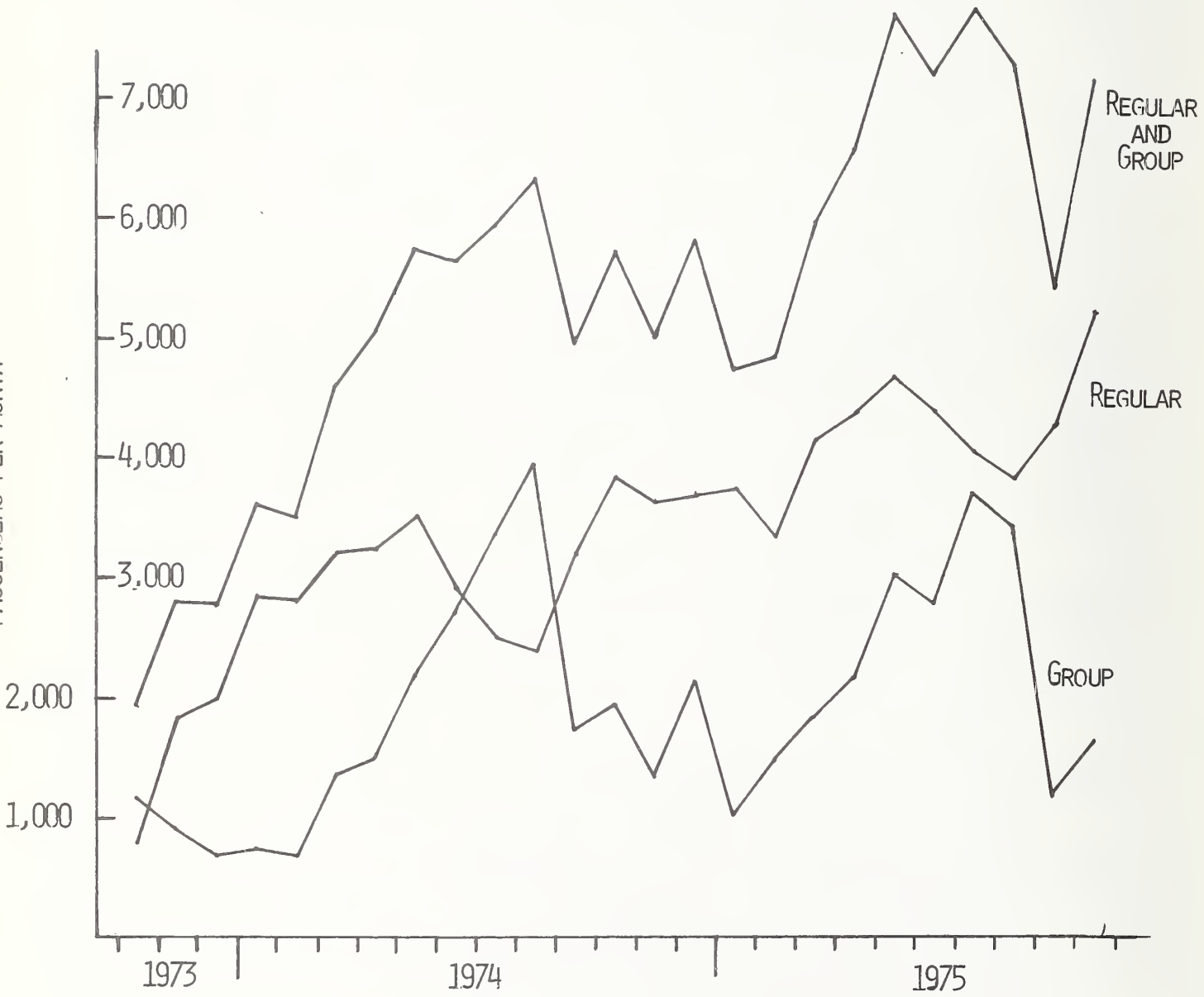
At the close of the demonstration, approximately 2,000 elderly and handicapped persons had used the regular Call-A-Bus service. An estimated 240 persons, or 12% of the total, used Call-A-Bus for most or all of their local travel. Most users used Call-A-Bus relatively infrequently. This resulted in a fairly even ridership distribution between frequent and occasional users.

Group Trip and Camp Goodwill Service

Call-A-Bus carried between 3,000 and 4,000 group trip passengers per month during the summer, when the weather favored social and recreational activities. Ridership dropped by more than 50% during the fall and winter. The group trip service was utilized by numerous small senior citizen and church groups, but most trips were sponsored by several large nursing homes. Altogether, over 70 organizations sponsored group trips. During the two months each summer when Camp Goodwill service was provided, approximately 2,000 additional monthly passengers were transported.

CALL-A-BUS RIDERSHIP

(EXCLUDING CAMP GOODWILL)



Alternative Modes

The total ridership of both the regular and group Call-A-Bus services reached as high as 7,800 passengers per month during the demonstration. Local social service agencies transport or pay for about 48,000 elderly and disabled passengers each month, and Syracuse taxi operators reported that approximately 36,000 elderly persons use taxis every month. Thus, total Call-A-Bus ridership was less than 7% of that carried by the other special service modes. In addition, approximately 135,000 monthly passenger-trips on CNY Centro fixed-routes are made by elderly persons over age 65.

1.2.2 Productivity and Economics

Costs and Revenues

Over the 25-month demonstration, regular service operating costs totaled about $456,000, excluding depreciation costs for the small buses delivered in February 1975. Regular service revenues totaled $39,817, or about 9% of costs. Group trip service costs during the demonstration were about $35,000; revenues covered half of these costs. Finally, Camp Goodwill service over three summers totaled about $28,000, of which Call-A-Bus paid $16,016. Net project operating costs, including all three services, was about $450,000 or nearly $18,000 per month.

As in other transit operations, Call-A-Bus service was labor-intensive, with about 80% of all costs allocated to wages and benefits. Regular service operating costs per vehicle-hour averaged $12.73 until February 1975, when a drivers' wage increase resulted in an increase in total costs per vehicle-hour to an average of $15.32.

Productivity

Despite rising unit costs during the demonstration, costs per regular service passenger decreased because of rising vehicle productivity. The number of passengers per vehicle-hour more than tripled during the demonstration, from under 1.0 during the first month to 3.4 in October 1975. The expansion of subscription services with high load factors was the main reason for this increase. This resulted in a per-passenger cost of about $4.40 during the last month of the demonstration.

The average cost of group trip service was about 70¢ per passenger which, because of high load factors, was lower than the cost of regular service. Group trip costs were generally not affected by demand, since operating costs occurred only when a trip was made. Furthermore, revenues accounted for 50% of the costs, assuming that CNY Centro charter rates accurately reflect operating costs. Over the entire demonstration period, the num-

ber of group trip passengers was about 59% of the number of regular service passengers, while the group trip service net cost was only 4% of the net cost of the regular service.

The subscription services were the most productive component of the regular Call-A-Bus service. Like the group trip service, their relatively high load factors lowered the overall cost per passenger.

Comparison With Other Services

Compared to other transportation modes, Call-A-Bus service was generally more costly to provide. Taxi operating costs per vehicle-hour are far below those of Call-A-Bus, and the average Call-A-Bus trip, if taken by taxi, would cost about $2.75 assuming that the fare covers all costs. Automobile travel, regular bus service, and social service agencies with their own vehicles all have much lower unit transportation costs than Call-A-Bus. Wheelchair taxi service costs more per passenger, but usually includes services not provided by Call-A-Bus. Several agencies which purchase transportation service -- primarily from taxi companies or by reimbursing automobile costs -- reported considerably higher costs, averaging $10 per passenger.

Call-A-Bus was also found to have lower vehicle productivities (passengers per vehicle-hour) than several other specialized demand-responsive systems for the elderly and handicapped. This can be attributed to a larger service area which resulted in relatively long trip lengths. Passenger-mile productivity was comparable to other systems.

1.3 IMPACTS AND TRANSFERABILITY

1.3.1 Impact on the Elderly and Handicapped

Increased Mobility

Approximately 12% of all Call-A-Bus users, or about 240 persons, used Call-A-Bus for all or most of their local travel; other users depended mainly upon fixed-route buses and being driven. However, nearly one-half of the Call-A-Bus ridership stated that their trips would not have been made if Call-A-Bus had not been operating. Much of this demand consisted of social, recreational, and personal business trips. Higher priority trips -- such as for medical appointments and work -- were more likely to be made by other modes, which were reported to include taxis, being driven, or regular buses in that order of usage. Thus, Call-A-Bus made high-priority trips more convenient or less costly for its users, and also provided a means for making other trips that would not have been made otherwise.

Independence

Approximately 12% of the users surveyed on-board and 17% of those surveyed by mail said that they would have been driven in order to make their trips if Call-A-Bus had not been operating. Call-A-Bus thus enhanced the independence and self-reliance of these users.

Savings

Sixteen percent of the on-board survey respondents and 24% of the mail survey respondents reported that they would have taken a taxi if Call-A-Bus were not available. For these persons, an average savings of nearly $5 per round-trip resulted.

Travel Security

Many users commented on the security and safety of traveling by Call-A-Bus. Perceived travel hazards such as street crime and slippery sidewalk conditions during winter were greatly alleviated by the provision of door-to-door service.

User Attitudes

In general, Call-A-Bus users were pleased with all aspects of the service. Numerous complimentary letters have been received by the Call-A-Bus staff, and most users reacted positively to attitudinal questioning on surveys. Three problems were mentioned occasionally by users and social service agency representatives. These included the long advance calling required, the limited service in outlying areas, and the "curb service only" policy when carrying wheelchair-confined passengers. All three of these problems were largely a result of the effort to serve a demand that exceeded the capacity of the system. In addition, the wheelchair assistance policy was adopted in order to minimize conflicts with private wheelchair taxis.

1.3.2 Impact on Social Service Agencies

Relative Supply

Many social service agencies provide transportation services to the elderly and handicapped, either with their own vehicles or with outside transportation such as volunteer drivers or taxis. The magnitude of this effort greatly exceeded that of Call-A-Bus: 108 agency-provided vehicles carried 43,000 passengers, compared to approximately 7,000 passengers on four Call-A-Bus vehicles, with occasional use of a larger CNY Centro vehicle for group trips. In a few cases, agencies reported that they were able to reduce their expenditures as a result of Call-A-Bus. In general, however, Call-A-Bus service supplemented the

transportation already being provided by these agencies. The group trip service permitted agencies and organizations to provide more transportation to their clients than they could have otherwise. A few nursing homes made extensive use of the group trip service, sponsoring several trips per month. Thus, the overall impact of Call-A-Bus was to provide additional transportation service rather than substitute for existing services.

Interaction With Call-A-Bus

Interviews with social service agency representatives revealed that most supported the Call-A-Bus program and judged it faborably. Since most social service agencies supplied their own transportation services, relatively few persons used Call-A-Bus to travel to agency programs. However, the agencies were important distributors of information for the service, and many users reported receiving their first contact with Call-A-Bus through referral by a social service agency. Through the Call-A-Bus Project Advisory Committee, several local social service agencies advised the CNYRTA staff on all policy matters.

1.3.3 Impact on CNY Centro and CNYRTA

The Call-A-Bus program benefited from being managed by an experienced transit operator. These benefits included the availability of additional buses and drivers when required to carry extra demand, scheduling and dispatching experience, and established maintenance procedures that assured proper vehicle performance. Through the Project Advisory Committee, CNYRTA also recognized the need for direct involvement of the organizations that work with the elderly and handicapped populations.

Call-A-Bus was a relatively minor component of all CNY Centro operations. Call-A-Bus carried less than 1% of CNY Centro's total ridership, although the Call-A-Bus net service cost represented about 4% of CNY Centro's net service cost. However, CNY Centro recognized its obligation to meet the needs of the population it serves, and Call-A-Bus service continued after the expiration of the demonstration.

CALL-A-BUS AND CNY CENTRO

	CNY Centro*	Call-A-Bus**	Call-A-Bus/ CNY Centro
Monthly Passengers	920,945	5,367	0.6%
Operating Expenses	$428,512	$19,649	4.6%
Passenger Revenues	$318,788	$ 2,291	0.7%
Operating Expenses/Passenger	$ 0.46	$ 3.66	803%
Passenger Revenues/Passenger	$ 0.35	$ 0.43	123%
Operating Ratio (Revenues/Costs)	0.74	.12	16%

*Fiscal Year 1975

**Averages for demonstration; 10/73-10/75 (excludes Camp Goodwill service)

1.3.4 Transferability

The Call-A-Bus demonstration is an example of the technique used by one transit operator to provide transit service for the elderly and handicapped. Many transit systems are presently contemplating plans to modify their regular systems so they can be used by the elderly and handicapped. Call-A-Bus represented an alternative approach of providing a special system for these groups. In other areas, this concept has been criticized because it segregates these groups from the general population, but this criticism did not surface as an issue in Syracuse. Instead, the evidence suggests that Call-A-Bus users were overwhelmingly satisfied with the service, and the perceived problems tended to relate to the limited availability of the service rather than its concept.

Theoretically, the operation of a system like Call-A-Bus can be fairly easily incorporated into a major transit system. Most of the demand occurs during the midday off-peak period, when transit operators typically have excess buses and drivers available; this can reduce the marginal cost of the service. Although small buses or vans are generally desirable for demand-responsive service, service can also be provided by large coaches, which were used for Call-A-Bus during the first 17 months of the

service. Existing operators have most of the skills necessary to offer such a service except for scheduling and dispatching in a demand-responsive mode. Nevertheless, not all attempts to provide these special public transit services by existing public transit organizations are successful for a variety of reasons. Therefore, the success of CNYRTA in this effort is a significant achievement.

2. INTRODUCTION

This report describes and evaluates the Syracuse Call-A-Bus demonstration, a project designed to provide specialized transportation services for the elderly and handicapped populations of Onondaga County who find it difficult or impossible to use regular public transportation. The report has been written primarily for transit policymakers, planners and operators who are concerned with implementation of similar services. The experiences documented include management practices, financial requirements, operating techniques, and user responses to the system. In addition, the report provides a detailed data base which transportation researchers may use together with data from other projects having similar objectives.

2.1 PROJECT DESCRIPTION

The Syracuse Call-A-Bus project consisted of several services; the most important of these was a many-to-many demand-responsive service for persons over age 55 and for all handicapped persons. In addition, special transportation was provided for organized elderly and/or handicapped groups. Nursing homes, senior citizen groups, religious organizations, and social service agencies were the usual sponsors of these group trips. Finally, Call-A-Bus provided daily transportation to and from a local day care center for disadvantaged children.

The Call-A-Bus demonstration was operated by CNY Centro, Inc., the transit-operating subsidiary of the Central New York Regional Transportation Authority (CNYRTA). The demonstration occurred over the 25-month period from October 1, 1973 to October 31, 1975. Since then, CNY Centro has continued to operate Call-A-Bus with only small modifications from demonstration levels. A chronology of the Call-A-Bus demonstration is contained in Exhibit 2.1.

Federal assistance during the demonstration was provided through Section 6 of the Urban Mass Transportation Act under Grant Number NY-06-0041. The project was part of the UMTA Service and Methods Demonstration (SMD) Program. A total of $500,000 from the following sources was budgeted for Call-A-Bus demonstration operating expenses:

	Amount	Percent
Federal (UMTA)	$333,000	67
State (New York DOT)	125,000	25
Local (CNYRTA)	42,000	8
Total	$500,000	100%

EXHIBIT 2.1

DEMONSTRATION CHRONOLOGY

Date	Events	Measurements
September 20, 1972	→ HEW-funded Dial-A-Bus system for elderly persons over age 55 begins. One regular transit bus used. Fare is 25¢.	
May 1, 1973	→ UMTA approves Section 6 grant for Call-A-Bus.	
October 1, 1973	→ Call-A-Bus service begins using a basic fleet of four regular transit buses equipped with "kneelers" for easier boarding. Regular service operates from 6:00 A.M. to Midnight on weekdays, 10:00 A.M. to 6:00 P.M. on Saturdays, and 8:00 A.M. to 4:00 P.M. on Sundays. Fare is 25¢. Group service transports organized groups of 15 or more persons.	
November 12, 1973	→ Regular service fares raised. Base fare is 50¢ and longer trips to and from outlying suburbs cost up to $1.00.	
March 28-April 9, 1974	First on-board survey conducted by student interns.	←
July 12, 1974	→ Weekly transportation to Jordan Nutrition Program begins.	
September 1, 1974	→ Weekday service cut back to 10:00 P.M. from Midnight.	
September 6, 1974	→ First senior shopper service operated taking elderly persons to and from a shopping center.	
December 1, 1974	→ Daily Call-A-Bus service restricted to a 44-square mile area including Syracuse and adjacent suburbs. Remainder of County served once a week.	
February 1, 1975	→ Driver wage rate chargeable to Call-A-Bus increased from $5.09 to $6.85 per hour.	
March 3, 1975	→ Transportation of disadvantaged children to and from the West Genesee Childrens Day Care Center begins.	
February - March 1975	→ Four small wheelchair buses with radios phased into operation.	
April 7, 1975	→ Transportation of persons confined to wheelchairs begins.	
July 1975	Mail Survey of wheelchair passengers conducted.	←
October 31, 1975	→ Call-A-Bus demonstration ends. Service continues with local funding.	
January 22-27, 1976	Second on-board survey conducted.	←
February-March 1976	Mail survey of Call-A-Bus users conducted.	←

In addition, $11,170 in fiscal year 1975 and $10,000 in fiscal year 1976 was received from the Metropolitan Commission on Aging in Syracuse through Title III of the Older Americans Act of 1965.

Four small buses and ancillary equipment were purchased during the demonstration for $199,265, using UMTA Section 3 funds (Grant Number NY-03-0055) and local funding.

2.2 PROJECT OBJECTIVES AND DEMONSTRATION ISSUES

The primary objective of the Syracuse Call-A-Bus demonstration was to improve transit service for the elderly and handicapped. This was explicitly stated by CNYRTA in the project proposal:

> The ultimate goal of this project is to provide a transportation system whereby the isolated and vulnerable, elderly and disabled people in the Syracuse area may participate fully in the social, economic, and other activities of the community as they wish....This project will provide the needed specialized transportation service so that the many people in the community who have no other convenient means of transportation may be able to lead a more meaningful life and become an active part of the total community.[1]

Other objectives included the determination of the latent demand of the elderly and handicapped, the acquisition of experience by CNYRTA in operating special services for the elderly and handicapped, and the coordination with other organizations in providing transportation services for the transit-dependent. Due to the specialized nature of the services offered, more general transit objectives--such as decreasing travel time and improving transit reliability--were considered to be less important.

The major issue addressed in the demonstration was whether the specialized public transportation system for the elderly and handicapped was effective in improving the mobility of these groups and enhancing the quality of their lives. Some of the specific issues included how much additional tripmaking Call-A-Bus induced, whether it provided more convenient access to users, and what portion of the potential market was served. The demonstration was also to ascertain the extent to which social service agencies participated with CNYRTA in planning and managing Call-A-Bus service. Measurement of the impact of Call-A-Bus on the transportation and other services provided by these agencies was also included. Finally, the Call-A-Bus demonstration was to ascertain how well an established public transportation authority could supply specialized transit service for the elderly and handicapped.

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[1] Application by the Central New York Regional Transportation Authority to the Urban Mass Transportation Administration for Federal Assistance to Provide Special Transit Services to the Elderly and Disabled Residents of Syracuse and Onondaga County, New York (January 5, 1973), page 4.

2.3 ORGANIZATIONAL ROLES

The operator of Call-A-Bus--CNY Centro, Inc.--is the transit operating subsidiary of the Central New York Regional Transportation Authority (CNYRTA), which was created by the New York State Legisla-- ture in 1970 to oversee public transportation activities in Onondaga, Cayuga and Oswego Counties. The Call-A-Bus project was conceived by CNYRTA and implemented with financial assistance from the Urban Mass Transportation Administration (UMTA) of the U.S. Department of Transportation.

The Transportation Systems Center (TSC) of the U.S. Department of Transportation is responsible for the evaluation of UMTA Service and Methods Demonstration (SMD) projects, including the Syracuse Call-A-Bus demonstration. TSC contracted SYSTAN, Inc. to assist in the evaluation of the Call-A-Bus demonstration.

2.4 EVALUATION OVERVIEW

The primary purpose of the demonstration evaluation is to determine the impacts expressed in the demonstration's objectives. There are also impact areas not explicitly stated in the project's objectives which can provide useful information to other transit districts. This information includes management procedures, operating techniques, institutional arrangements, and economics.

The evaluation contains two types of findings. The first type results from quantitative analysis to measure changes resulting from the introduction of the demonstration innovations. The second component includes those findings which cannot be statistically substantiated but are necessary to understand the statistical results; it also includes descriptive information to help other districts determine if the results are transferable to their areas.

2.5 REPORT CONTENTS

The remainder of this report consists of seven chapters plus several appendices. The project site and other transportation services available to the elderly and handicapped are described in Chapter 3. Chapter 4 describes the operational and supply aspects of the demonstration, including services provided and management procedures. The evaluation methodology and data sources are described in Chapter 5. The results of the demonstration are discussed in Chapters 6 through 8. Chapter 6 contains information on demand, Chapter 7 deals with productivity and costs, and Chapter 8 describes the impacts of the demonstration on users and social service agencies. The findings and conclusions are summarized in Chapter 9 , including implications for transferability. Seven appendices contain survey results, internal forms, promotional materials, and samples of user comments.

3. DEMONSTRATION SETTING

This chapter contains a description of the setting in which the Call-A-Bus demonstration was conducted. The description will acquaint the reader with the conditions that existed when the project began and the needs Call-A-Bus has attempted to fulfill. It also enables persons from other areas to assess the applicability of the findings presented in this report to their own regions. For the latter purpose, variables from census publications are used when possible to facilitate the comparison between Syracuse and other urban areas.

3.1 GEOGRAPHIC AND DEMOGRAPHIC CHARACTERISTICS

Call-A-Bus service was offered in Onondaga County, an area of 794 square miles in upstate New York approximately midway between Albany and Buffalo (see Exhibit 3.1). Syracuse, the principal city in Onondaga County, had a population of 197,297 in 1970. It is considered a "middle-sized" city, ranking sixty-sixth in population among American cities. Its population density in 1970 was 7,647 persons per square mile, which exceeds that of most cities, especially those outside the Northeast region. When the contiguous developed areas are included to form the Syracuse urbanized area, the population increases to 376,159 (the fifty-eighth largest U.S. urbanized area). Outside the Syracuse urbanized area, most of Onondaga County is rural; 80% of the County's population is concentrated in the 12% of the land designated as the Syracuse urbanized area.

Initially, daily service was provided to all of Onondaga County, but most Call-A-Bus trips were confined to the Syracuse area. Consequently, beginning on December 1, 1974, seven-day-a-week service was restricted to an approximately 44-square-mile area of 260,800 people that included the City of Syracuse and three adjacent suburbs. Other areas of the County were served only once a week.

Exhibit 3.2 summarizes the relevant demographic characteristics tics of the City of Syracuse, the Call-A-Bus daily service area, and Onondaga County. Total U.S. averages (both urban and rural) are also included in the exhibit as reference points. Socially and economically, the Syracuse area is fairly representative of the American population. In terms of the percentage distribution of non-agricultural work force among the manufacturing trade and government, Syracuse is very close to total U.S. averages. It is such a typical city that many U.S. companies use Syracuse as a test city for new product marketing. There are no extraordinary demographic characteristics that reduce the applicability of Call-A-Bus results to other localities.

EXHIBIT 3.1

ONONDAGA COUNTY

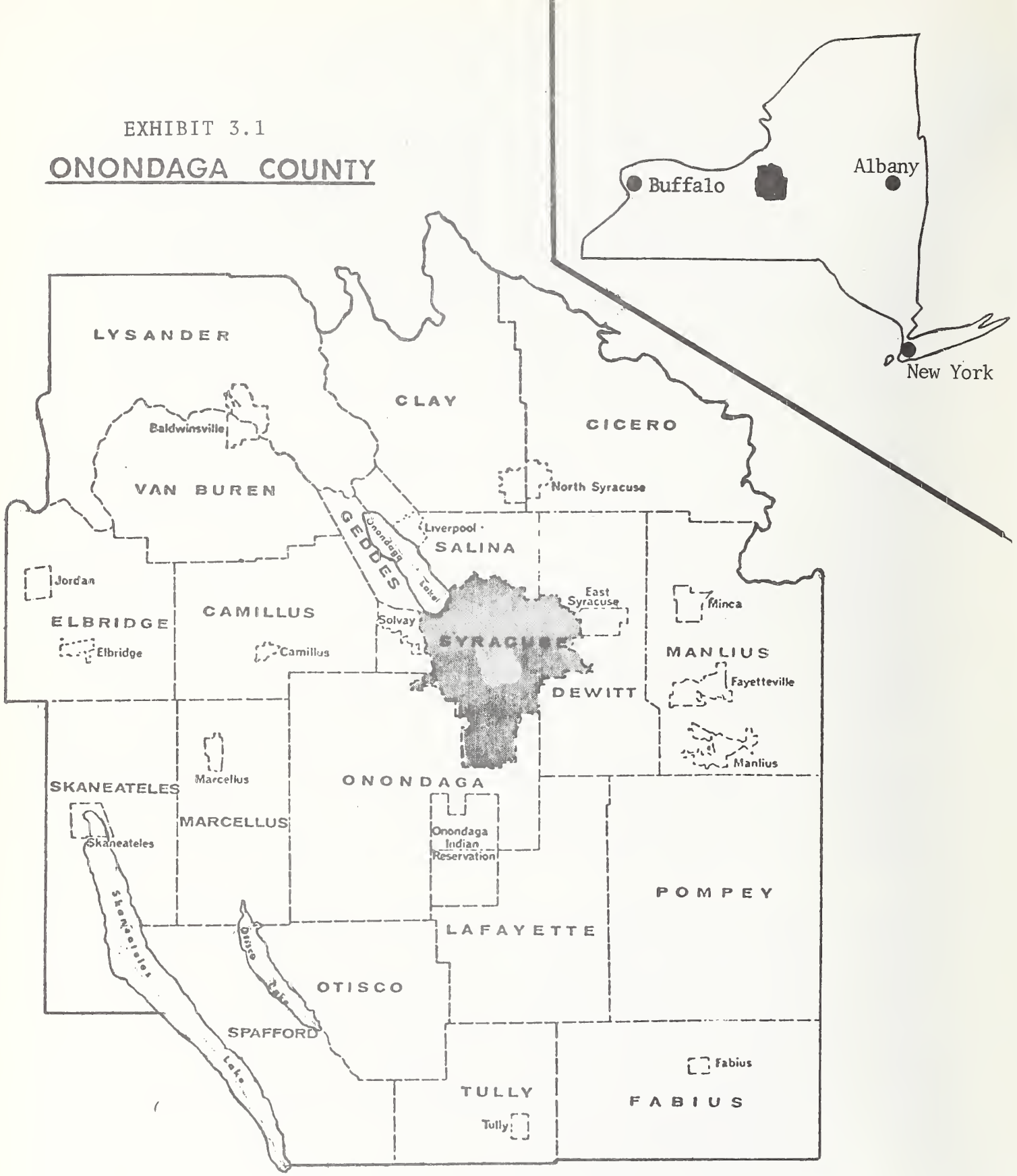

EXHIBIT 3.2

DEMOGRAPHIC CHARACTERISTICS OF CALL-A-BUS SERVICE AREA, 1970

	National Average*	Syracuse	Call-A-Bus Daily Service Area	Onondaga County
Population	--	197,297	260,800	472,835
Percent of Onondaga County Population	--	41.7%	55.1%	100.0%
Percent Population Change:	--			
1960 - 1970	--	-8.7%	N/A	+11.8%
1950 - 1960	--	-2.1%	N/A	+23.8%
Area (square miles)	--	26	44	794
Population Density (pop./mile^2)	--	7,647	5,927	596
Estimated 1980 Population**	--	210,451	N/A	608,124
Estimated Population Change, 1970-80	--	+6.7%	N/A	+28.6
Median Family Income (1969)	$9,590	$9,246	N/A	$10,830
Percent of Families Below Low Income Level	10.7%	9.8%	N/A	6.6%
Percent of Housing Units in One-Unit Structures	69.4%	37.1%	N/A	59.3%
Percent of Housing Units With Telephone Available	92%	89.5%	N/A	93.4%
Percent of Households With:				
0 Autos	18%	28.8%	19.1%	16.7%
1 Auto	54%	53.0%	53.2%	52.9%
2 Autos	23%	15.6%	24.1%	26.2%
3 or More Autos	5%	2.6%	3.6%	4.2%
Means of Transportation to Work:				
Private Auto, Driver	66.0%	56.5%	N/A	67.6%
Private Auto, Passenger	11.7%	14.3%	N/A	13.4%
Bus	5.5%	15.1%	N/A	8.4%
Rail	2.3%	0.1%	N/A	0.0%
Walk	7.4%	11.4%	N/A	6.8%
Work at Home	3.5%	1.8%	N/A	2.3%
Other	3.6%	1.7%	N/A	1.6%
Percent of Population Age 55 and Over	19.0%	23.0	21.7%	17.9%
Number of Persons Age 55 and Over	--	45,348	56,681	84,790
Percent of Population Age 65 and Over	9.8%	12.9%	11.8%	9.3%
Number of Persons Age 65 and Over	--	25,526	30,814	44,176
Percent Male	42%	38.3%	N/A	40.4%
Percent Female	58%	61.7%	N/A	59.6%
Percent of Persons Age 65 and Over in Labor Force				
Male	25.8%	27.0%	N/A	N/A
Female	9.2%	12.8%	N/A	N/A
Percent of Families Headed by Person Age 65 and Over	14.1%	17.8%	N/A	13.0%
Percent of Families Headed by Person Age 65 and Over That are Below Low-Income Level	16.5%	10.4%	N/A	N/A
Percent of Persons Age 65 and Over That are Below Low-Income Level	24.6%	21.6%	N/A	20.1%

*Entire U.S. population, both rural and urban.

**Source: Application by Central New York Regional Transportation Authority to UMTA, January 5, 1973, Page 14.

Exhibit 3.2 highlights the characteristics of the population over age 65 because the overwhelming majority of Call-A-Bus passengers were found to be over 65 years old, although age 55 is the minimum eligible age. (In the general population, there are approximately equal numbers of people between the ages of 55 and 65 and those older than 65). Also, age 65 has been widely adopted as the definition of elderly; hence, much of the data available on the elderly are based on this cutoff point.

A high proportion of the population in the City of Syracuse is over age 65 (12.9% compared to a 9.8% national average). When the suburbs and outlying areas are included, however, the results are much more representative of the U.S. population. A total of 44,000 citizens age 65 or over--60% of them female--live in Onondaga County. Exhibits 3.3 and 3.4 display the relative densities of elderly persons by census tract in Syracuse and the remainder of Onondaga County, respectively. While most all of the Syracuse census tracts contain 9% or more of people age 65 and over, there are relatively few tracts outside Syracuse with a rate higher than 9%. Those which do tend to be adjacent to Syracuse. Around 58% of the County's elderly population is located in Syracuse.

The size of two relevant subpopulations of Onondaga County have been estimated. The first is the number of persons eligible for the service by virture of their age or their being handicapped. The second is the target population for which the service is intended. The population age 55 and over and eligible by age, according to the 1970 Census, is almost 85,000 persons. Local data on the number of handicapped persons is not available. However, it is estimated that on the national level, 3.3% of the national population are non-elderly (under age 65) and handicapped.[1] If this proportion is assumed for Onondaga County, it would contain approximately 15,600 non-elderly handicapped persons. Unfortunately, this figure cannot be added to the number of persons age 55 or over to find the eligible population, since this would double-count those between the ages of 55 and 65 who are handicapped. It is known that 3.7%[2] of the national population is both elderly (65 and over) and handicapped, or about 38% of the total population over age 65. On this basis, it can be assumed that a lesser percentage--perhaps 20%--of those between 55 and 65 are disabled. Based on this logic, the total eligible population is estimated as approximately 90,000 (84,790 age 55 and over, plus 15,600 under age 65 and handicapped, less 8,000 handicapped between age 55 and 65).

The target population is defined as those who are eligible by age or handicapped status, dependent on transit, and cannot use the fixed-route system. An estimate of this population has been made recently by the Syracuse Metropolitan Transportation Study (SMTS) staff. They defined a target population of the transit-disabled which excluded elderly and disabled persons who could drive or were confined at home, but includes

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[1]National Center for Health Statistics, U.S. Department of Health, Education, and Welfare, 1970 Census of Population.

[2]Ibid.

EXHIBIT 3.3

PROPORTION OF THE POPULATION AGE 65 AND OVER

1970, BY CENSUS TRACT, SYRACUSE

12.8% or greater

9.4 - 12.7%

6.0% - 9.3%

0 - 5.9%

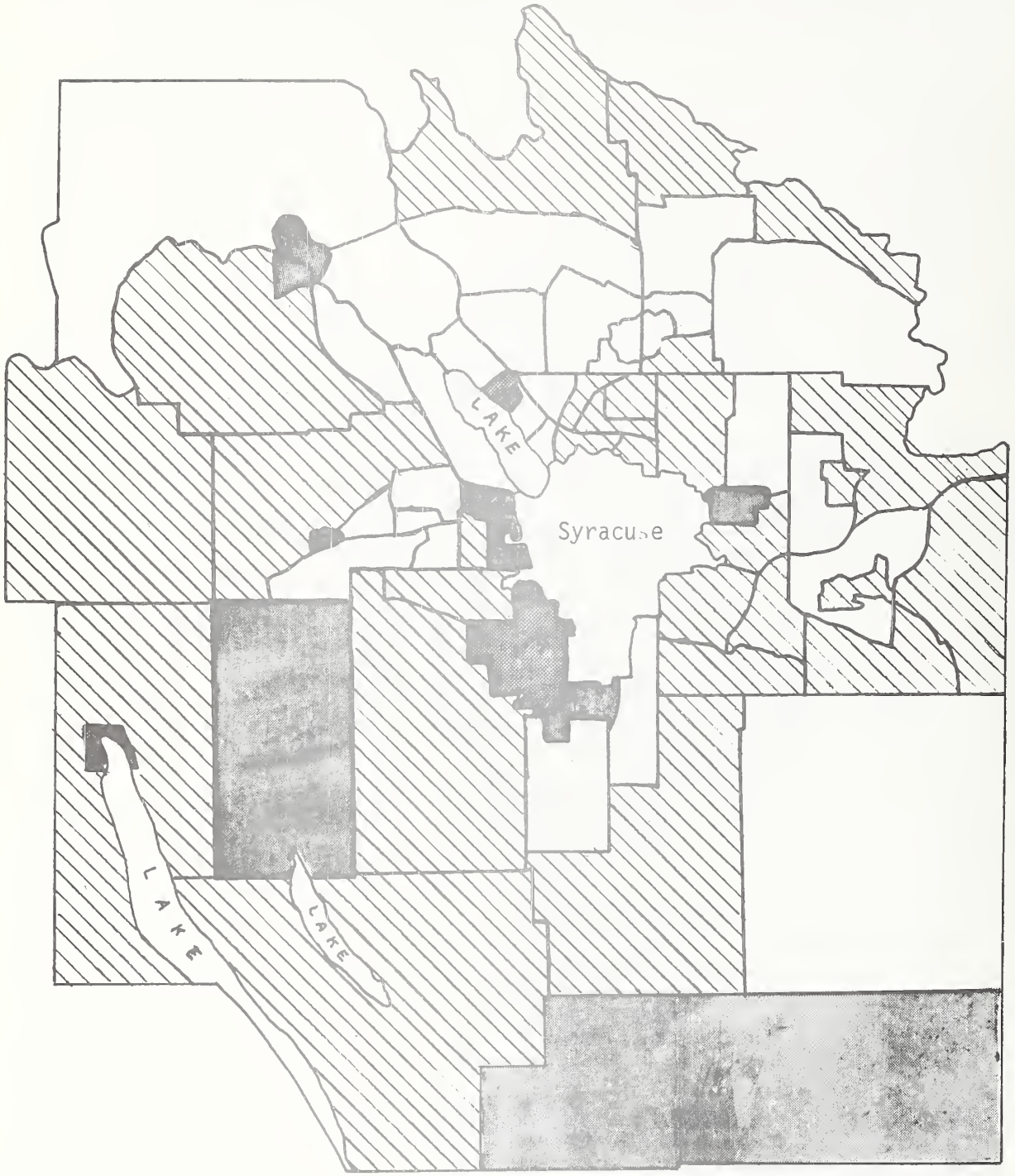
County Average: 9.3 %
Syracuse Average: 12.9%
Non-Syracuse Average: 6.8%

1 mile

EXHIBIT 3.4

PROPORTION OF THE POPULATION AGE 65 AND OVER

1970, BY CENSUS TRACT, ONONDAGA COUNTY OUTSIDE OF SYRACUSE



12.8% or greater

9.4% - 12.7%

6.0% - 9.3%

0 - 5.9%

County Average: 9.3%
Syracuse Average: 12.9%
Non-Syracuse Average: 6.8%

5 miles

non-disabled elderly residents (age 60 and over) living more than 1,000 feet from a fixed-route bus line. Using national disability estimates made by Abt Associates, this target population was estimated to include about 24,179 (Exhibit 3.5). Unfortunately, and without explanation, the estimate uses the age 60 and over for the definition of elderly. Therefore, the non-disabled elderly proportion of this population (8,817 from Exhibit 3.5) should be increased by one-third (assuming there are an equal number of persons between the ages of 55 and 65 as over 65). The estimated target population, then, is approximately 27,000.

3.2 TRANSPORTATION SUPPLY AVAILABLE TO THE ELDERLY AND HANDICAPPED

3.2.1 Public Transit Services

In an effort to stem the tide of public transit decline in Central New York,* the New York State Legislature created the Central New York Regional Transportation Authority (CNYRTA). The CNYRTA assumed ownership of the Syracuse Transit Corporation in 1972 and renamed it CNY Centro, Inc. Another privately-owned and operated transit company--the Syracuse and Eastern Transit Corporation--was acquired by the CNYRTA in 1974 and integrated into the Centro system. CNYRTA is responsible for planning, marketing, transit development, and securing capital and operating assistance for CNY Centro and two other operating subsidiaries.

In addition to CNY Centro, urban transit service within Onondaga County is presently provided by three privately-owned companies which supply mainly suburban commuter service. CNY Centro presently carries approximately 11 million passengers annually. Together, the three private lines carry approximately 550,000 passengers annually, about 5% of the total area transit ridership.

CNY Centro currently owns and operates a fleet of 170 buses. The system's route network, shown in Exhibit 3.6, consists of ten routes, each with several branches. The basic fare is 35¢, but since July 1975, elderly and handicapped persons have ridden for 15¢ during off-peak hours (10:00 A.M.-4:30 P.M. and 6:30 P.M.-1:30 A.M. on weekdays and all day on weekends and holidays). From January 1972 until 1975, the elderly off-peak fare was 20¢. Headways are generally from 10 to 20 minutes during the peak period, from 10 to 60 minutes during the weekday off-peak period, and slightly longer on weekends. Relevant CNY Centro operating statistics for the 1975 fiscal year are shown in Exhibit 3.7.

In 1971, a systemwide on-board survey was conducted as part of the Syracuse Transit Improvement Study.** Some of the key findings of this survey were:

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*In Syracuse, transit ridership and service followed the national trend of decline in the period following 1947. Annual ridership reached a high of 60 million passengers in 1947; by 1971, this figure had dropped to 9.6 million, a decrease of 84 percent.

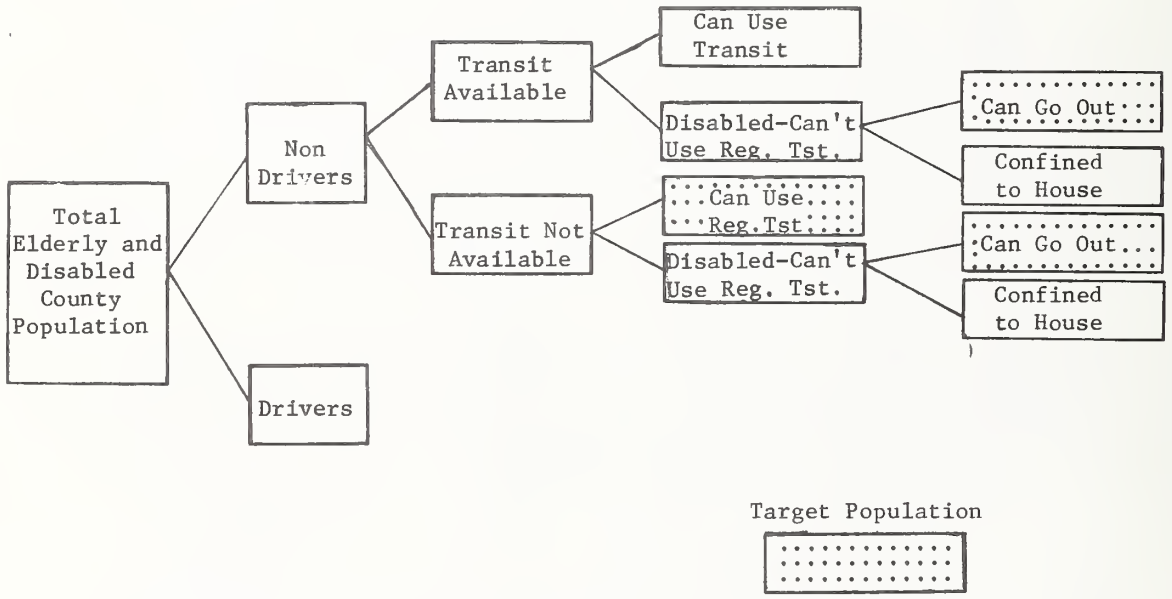
**Wilbur Smith and Associates, Syracuse Transit Improvement Study (January 1973).

EXHIBIT 3.5: ONONDAGA COUNTY TRANSPORTATION DISABLED

Number of Chronically Disabled with Transportation Dysfunction in Onondaga County

Class	Elderly	Non-Elderly	Total Disabled
Visually Impaired	3,442	1,310	4,752
Hearing Impaired	386	458	844
Uses Wheelchair	552	480	1,032
Uses Walker	843	141	984
Other Special Aid	5,498	7,743	13,241
Other Mobility Limitation	3,641	4,355	7,996
TOTALS	14,362	14,487	28,849

PROCESS USED TO IDENTIFY TARGET POPULATION

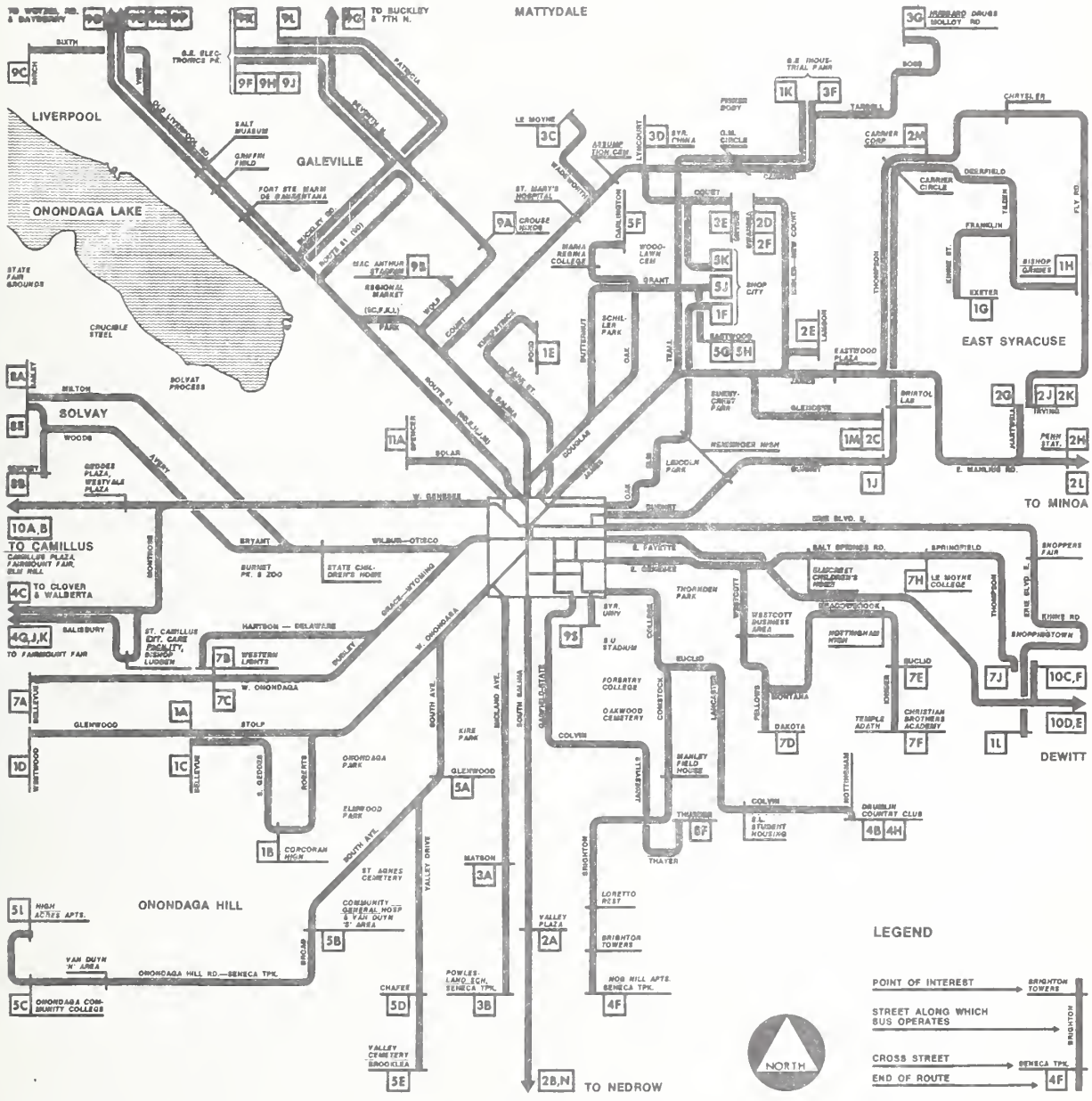


Target Population

TOTAL TARGET POPULATION OF TRANSPORTATION DISABLED

	City	Suburbs	Rural	Total
Non-Disabled Elderly without Car or Access to Bus	921	3,207	4,689	8,817
Disabled Elderly Without Access to Car and Not Confined to Home	4,671	1,947	967	7,585
Non-Elderly Disabled Without Access to Car and Not Confined to Home	2,955	3,188	1,634	7,777
TOTALS	8,547	8,342	7,290	24,179

Source: Syracuse Metropolitan Transportation Study (December 1976)



SCHEMATIC MAP OF CENTRO TRANSIT SYSTEM

NOTE:

- ALL OUTBOUND ROUTES DEPART FROM DOWNTOWN (COMMON CENTER)
- ALL INBOUND ROUTES TERMINATE DOWNTOWN (COMMON CENTER)
- SEE THE "TRANSIT MAP OF SYRACUSE AND SURROUNDING AREA" FOR SPECIFIC INFORMATION CONCERNING THE ENTIRE TRANSIT SYSTEM
- SEE INDIVIDUAL TRANSIT SCHEDULES FOR DETAILED INFORMATION CONCERNING SPECIFIC ROUTES

EXHIBIT 3.7

CNY CENTRO, INC. OPERATING STATISTICS

FOR 12 MONTHS ENDING MARCH 31, 1975

	Scheduled Service	Charter	Combined
Number of revenue passengers	10,629,934	421,407	11,051,341
Number of vehicle-hours	363,714	25,408	389,122
Number of vehicle-miles	4,231,481	263,213	4,494,694
Operating Expenses	--	--	$5,142,149
Passenger revenue	$3,364,305	$376,959	$3,825,455
Passengers/vehicle-hour	29.2	16.6	28.4
Operating expenses/vehicle-hour	--	--	$13.22
Average bus passenger revenue per vehicle-hour	$9.25	$14.84	$ 9.83
Operating expenses/ vehicle-mile	--	--	$ 1.14
Operating expenses/passenger	--	--	45.6¢
Passenger revenues/passenger	31.6¢	89.5%	34.6¢
Operating ratio (revenues/costs)	--	--	0.74

- 15% of the ridership were 65 years of age or older, and 28% were in the 45-64 age category;
- 73% of the riders were female;
- 46% of the riders lived in households with no automobile;
- 57% of the riders lived in households with monthly incomes under $500; and
- 55% of all trips were to or from work.

The first finding indicates that there are approximately 5,800 daily passengers who are age 65 and over.

3.2.2 Taxi Service[1]

There are approximately 200 taxis operating within Onondaga County, the majority affiliated with four companies. The normal fare is $1.50 for the first mile and 60¢ for each mile thereafter, although several of the smaller suburban operators charge a consistent 60¢/mile fare. Some of the smaller companies also offer a 10%-25% discount for elderly persons.

Approximately 6,000 passengers use taxis each day. Operators reported that about 25% of this ridership (1,500 persons) are elderly or disabled. Operators also estimated that about 60% of their passengers use the taxi for medical-related trips, and that 27% of all taxi revenue is derived from Medicaid or Medicare payments. Thus, taxis appear to be heavily used by the elderly and handicapped for essential trips.

Syracuse taxicabs handle an average of 1.85 trip requests per operating hour. There are an average of 1.66 passengers per request, resulting in a vehicle productivity of 3.07 passengers per vehicle-hour. Revenues, assumed to be roughly equivalent to operating costs, averaged $5.75 per vehicle-hour.

3.2.3 Wheelchair Cab Service[1]

Four companies in Onondaga County operate about 20 vehicles equipped to carry passengers in wheelchairs. They provide service on call, like regular taxis, although the response time is generally slower due to the smaller number of vehicles. Wheelchair cab services will assist a customer in getting from their home into the vehicle, and also from the vehicle to the destination.

Fares for these services vary. One company charges $12.50 per one-way trip within the City of Syracuse; the other companies charge $8 or $9. For trips outside the city, an additional 75¢ to $1.00 per

[1] Information derived from Syracuse Metropolitan Transportation Study, Transportation Needs of the Elderly and Disabled in Onondaga County (Draft Report, December 1976).

mile is charged. If a passenger requires assistance to ascend or desend stairs, an additional charge of 50¢ to $1.00 per flight of stairs is assessed. Almost all trips on this service are made for medical purposes, and most fares are paid by outside sources such as Medicaid, insurance company reimbursements, or foundations. Approximately 4,000 passengers are carried on these services each month. Vehicle productivity was estimated to be 0.66 passengers per vehicle-hour. Revenues, assumed to be equivalent to operating costs, were $6.00 per vehicle-hour or about the same as for regular taxi service.

3.2.4 Social Service Agency Transportation

Many local social service agencies provide some type of transportation service to the elderly and handicapped. In addition, nursing homes, housing and neighborhood centers, churches, etc. also provide some transportation service.

A comprehensive survey of 90 local agencies was co ducted as part of the Syracuse Metropolitan Transportation Study in 1976.[1] A total of 44 agencies, mostly private non-profit organizations, were found to provide some type of transportation service. Many of these agencies serve groups other than the elderly and handicapped, or serve all ages together. However, the SMTS identified 24 agencies that operated 99 vehicles primarily serving the elderly and handicapped. The majority of these vehicles are vans equipped with wheelchair lifts.

All but one of these agencies provide transportation as a supplementary component of the agency's major social services to their clients, patients, or residents. Vehicles are often used for staff purposes as well as for client transportation. P.E.A.C.E. Inc., a Community Action agency, operates a free (donations accepted) demand-responsive service for low-income elderly persons in Onondaga County as one of its functions. Three vans provide service in Syracuse.

The SMTS estimated that the above services carried approximately 35,000 passengers each month. However, the study found that most vehicles were only used for a few hours each day, generally taking clients to and from the agency each morning and afternoon.

Although agency records on transportation costs are often imprecise, the SMTS estimated that $565,000 is spend annually by the 24 agencies providing vehicular transportation to the elderly and handicapped.

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[1] Syracuse Metropolitan Transportation Study, Ibid.

An imputed value for staff driving time is included for cases when the agency did not report a direct labor cost for transportation. This value was based on the hours of vehicular operation and the agency's wage scale. The cost per vehicle-hour generally varied between $4.50 and $5.50, somewhat below the cost of providing taxi service. The average cost per passenger was around $1.50, but this reflects a great number of different services with varying levels of efficiency.

In addition to the above agencies that provide transportation service with their own vehicles, several agencies purchase transportation services for their clients or reimburse them for expenses. The two major agencies that do this are the State Office of Vocational Rehabilitation and the Onondaga County Department of Social Services. Together, these transportation-purchasing agencies reported annual expenditures of $587,704 for 58,184 passenger-trips (4,850 trips per month), or slightly over $10 per trip. The high unit cost was attributed to administrative costs and the predominant use of private modes such as automobiles (at 13¢ per mile), taxis, and wheelchair taxis. Thus, 75% as much money was spent to purchase client transportation as was spent by agencies operating vehicles, yet purchased transportation accounted for only 10% of the total number of passenger-trips associated with social service transportation.

In the Spring of 1977 a new rural area transportation service began in Onondaga County. This service, a Federal Highway Administration Section 147 demonstration project will be operated jointly by P.E.A.C.E. Inc., and the CNYRTA. It is expected that the annual budget for this new service will be between $150,000 to $200,000.

3.3 TRANSPORTATION CHARACTERISTICS AND NEEDS OF THE ELDERLY AND HANDICAPPED

In 1972, the Action Coalition to Create Opportunities for Retirement with Dignity (ACCORD) conducted extensive interviews with 60 elderly residents, focusing on the problems and needs of Syracuse senior citizens. ACCORD is an organization dedicated to promoting the interests of the elderly in areas such as income-maintenance, employment, health, housing, and transportation. Transportation was one of the areas dealt with in these interveiws. The results highlight the major concerns of the elderly before the Call-A-Bus project began.

Those interviewed were asked what mode of transportation they normally used; the results are shown in Exhibit 3.8. The results indicate a relatively high usage of bus transit, notwithstanding the small sample size and the consequently wide confidence range. Of the 60 persons interviewed, 39 did not own an automobile; these are the same 39 persons who relied upon other means of transport in the results reported in Exhibit 3.8. Most of the bus ridership group consisted of widowed women.

The elderly persons interviewed spoke of several problems with local transportation, particularly the bus transit mode. Most praised CNY Centro's lower fare for senior citizens during the midday off-peak period; some wished the reduced fare could be extended to other times of day. Several expressed the concern that even the 20¢ fare sharply limited their mobility.

Traveling to and from the bus stop was voiced as a problem by many elderly residents, especially during the winter when snow and ice make walking particularly hazardous; 70% expressed concern over the conditions of the sidewalks. The high step getting on and off the buses was also mentioned, as were the more general problems of excessive waiting time and inconvenient bus routing and scheduling. Since the ACCORD survey, many CNY Centro buses have been equipped with "kneelers" that lower the front steps to facilitate access for the infirm.

The transportation characteristics and needs of the handicapped have not been as well defined as those of the elderly. Those confined to wheelchairs are often restricted to wheelchair-taxi vehicles, unless they own a specially-equipped private automobile. Other handicapped persons can use several modes providing an attendant accompanies them, but the latter requirement greatly restricts their mobility.

EXHIBIT 3.8

USUAL TRANSPORTATION MODE

OF ACCORD SURVEY RESPONDENTS

Usual Mode	Number	Percent	95% Confidence Range
Car	20	33.9	21.8 - 46.0
Bus	24	40.7	28.2 - 53.9
Taxi	2	3.4	0.0 - 8.0
Walk	1	1.7	0.0 - 5.0
Driven by friends, relatives	12	20.3	10.0 - 30.6
No response	1	--	----
Total	60	100.0%	

4. DEMONSTRATION OPERATION AND MANAGEMENT

4.1 PROJECT BACKGROUND

The forerunner of the Call-A-Bus demonstration was a Dial-A-Bus (DAB) system funded by the Office on the Aging, U.S. Department of Health, Education and Welfare. DAB service began on September 20, 1972, as the transportation component of the Areawide Model Project for the Aging in Syracuse and Onondaga County. When Call-A-Bus began operation one year later on October 1, 1973, the DAB program was terminated.

The DAB system was a door-to-door, demand-responsive service operated by CNY Centro in much the same way that Call-A-Bus was to be operated. By the terms of the grant, service was available to persons age 55 and over. By policy, it was intended to serve those who were unable to use regular public transportation services. Service requests had to be made at least two days in advance to allow a day for bus scheduling and confirming the trips with the users. DAB operated from Monday to Friday between 9:00 A.M. and 5:00 P.M. using one regular transit bus. The fare was 25¢.

At the time of initiation of DAB service, trip requests were handled at the Volunteer Center, a community service agency. It was thought that it would be best to have a community service agency screen the applicants for transportation services. Handling Dial-A-Bus requests was to be one of the functions of two Information and Referral Outreach Workers. Soon the Outreach Workers were spending full-time on dispatching. In addition, the spatial separation of the CNY Centro dispatcher from the Volunteer Center resulted in an excessive number of phone calls whenever cancellations and time preference changes were received by the Volunteer Center. For these reasons, the function of recording trip requests was moved to the CNY Centro offices, where it was performed by two formerly-retired telephone operators.

Within the first two months of service, daily DAB service reached about 30 passengers per day. This proved to be approximately the maximum number of passengers that the single bus could carry. When demand was particularly heavy, a second bus was dispatched. However, an annual budgetary limitation of $52,000 restricted extensive use of the extra bus. DAB monthly operating statistics are summarized in Exhibit 4.1.

Although there was very little advertising of the service, DAB demand quickly saturated the system's capacity. This suggested that the latent demand for such a specialized service was greater than that carried by DAB. Consequently, in January 1973, CNYRTA submitted an application to UMTA for a grant to implement an expanded service.[1] A Section 6 grant (see Chapter 2) was awarded in May 1973 based on the projected budget shown in Exhibit 4.2.

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[1] CNYRTA Application, op.cit.

EXHIBIT 4.1

DIAL-A-BUS SERVICE

October 1, 1972 through August 31, 1973

Month		Vehicle Productivity (Pax/Hours)	Bus Hours	Bus Miles	Passengers
October	1972	1.7	190	2,087	332
November	1972	2.5	236	3,602	580
December	1972	2.4	219	2,672	533
January	1973	3.0	207	2,812	616
February	1973	2.7	186	2,377	510
March	1973	3.0	219	3,051	659
April	1973	2.8	207	2,752	578
May	1973	3.1	208	3,034	642
June	1973	3.0	209	3,122	637
July	1973	2.5	194	2,824	494
August	1973	2.3	200	2,336	461
TOTAL		2.7	2,275	30,669	6,042

EXHIBIT 4.2

ORIGINAL APPROVED CALL-A-BUS DEMONSTRATION BUDGET

	Amount	Percent
Administration	$33,100	7
Dispatching & Scheduling	55,000	11
Employee Benefits @ 30%	26,430	5
Administrative Travel	2,500	1
Other Administrative Costs: rent, telephone, equipment, etc.	19,500	4
Net Bus Operating Costs 32,620 vehicle hours @ $10	326,200	65
Printing Project Report	2,000	--
Contingencies	35,270	7
Totals	$500,000	100%

Call-A-Bus service was initiated on October 1, 1973 with no major transitional problems. The many-to-many service was operated in much the same way as the DAB system it replaced. Persons over age 55 or the handicapped who found it difficult or impossible to use regular public transportation were eligible to use the service. Requests had to be made at least two days in advance. The fare was initially 25¢, although it rose shortly thereafter. The major differences between Call-A-Bus and DAB were that four vehicles were available and the hours of service were extended to include evenings and weekends. In addition, Call-A-Bus offered a variety of special services to meet more of the travel needs of the elderly and handicapped and, in one case, the need for transportation of disadvantaged children to a local day care center. Additional services included group trip service, senior shopper trips, subscription services, summer camp transportation, and the Jordan Nutrition Program transportation.

Call-A-Bus service has continued to operate since the demonstration period terminated on October 31, 1975. Only small modifications to the service have been made since the demonstration.

4.2 OPERATIONS

4.2.1 Regular Call-A-Bus Service

The primary service offered by Call-A-Bus was a door-to-door, demand-responsive, advance-reservation bus service henceforth called "regular Call-A-Bus service." This service was provided to any elderly or handicapped resident of Onondaga County who found it difficult to use regular transit service. In this sense, the Call-A-Bus program was viewed as a complement to rather than as a substitute for the fixed-route services offered by CNY Centro.

4.2.1.1 Eligibility[1] - For the purposes of the project, "elderly" was defined to include individuals 55 years or age or over. "Handicapped" was defined to include individuals of any age who, due to physical or mental disability, were unable to use regular fixed-route transit services. Call-A-Bus began transporting wheelchair-confined passengers on April 7, 1975, after the new small buses with wheelchair lifts were put into service.

No formal screening or evaluation process was used to determine if individuals were in fact eligible for the service. In effect, the Call-A-Bus program operated under an "honor system." In isolated incidents, individuals were requested to provide proof of disability when drivers reported to the office concerning persons they thought might not be eligible for the service.

[1]Also see Call-A-Bus promotional material in Appendix A.

4.2.1.2 Geographic Scope of Operations - The Call-A-Bus project provided services throughout Onondaga County on a daily basis from October 1973 to December 1974. During the summer and fall of 1974, the Call-A-Bus Project Advisory Committee studied various alternative approaches suggested by the Authority in an effort to make the system more cost-effective. As part of this effort, an origin-destination study was conducted. The results indicated that Call-A-Bus usage was largely confined to the City of Syracuse and a few adjacent suburbs, reflecting the uneven distribution of the County's population. Consequently, the service area was significantly reduced in order to concentrate service within the areas of greatest demand. Beginning on December 1, 1974, regular Call-A-Bus service was offered on a seven-day-per-week basis to the City of Syracuse and several adjoining suburbs; services were provided to other County areas on a rotating basis once per week on the following schedule:

Monday - North Syracuse, Mattydale, Cicero area (northeast);

Tuesday - Dewitt, Fayetteville, Manlius, Minoa area (east);

Wednesday - Camillus, Jordan, Elbridge area (west);

Thursday - Baldwinsville, Liverpool, Radisson area (northeast); and

Friday - Onondaga Hill, Skaneateles, Marcellus area (south).

Persons could still travel to an area not being served that day if they lived in an area that was being served. However, this occurred infrequently in that most destinations were inside Syracuse.

Exhibit 4.3 indicates the revised daily service area of the Call-A-Bus program. In terms of square miles, this revision decreased the area of daily coverage from 794 to 44 square miles. The "average" weekday service area became 194 square miles (44 + [794-44]/5).

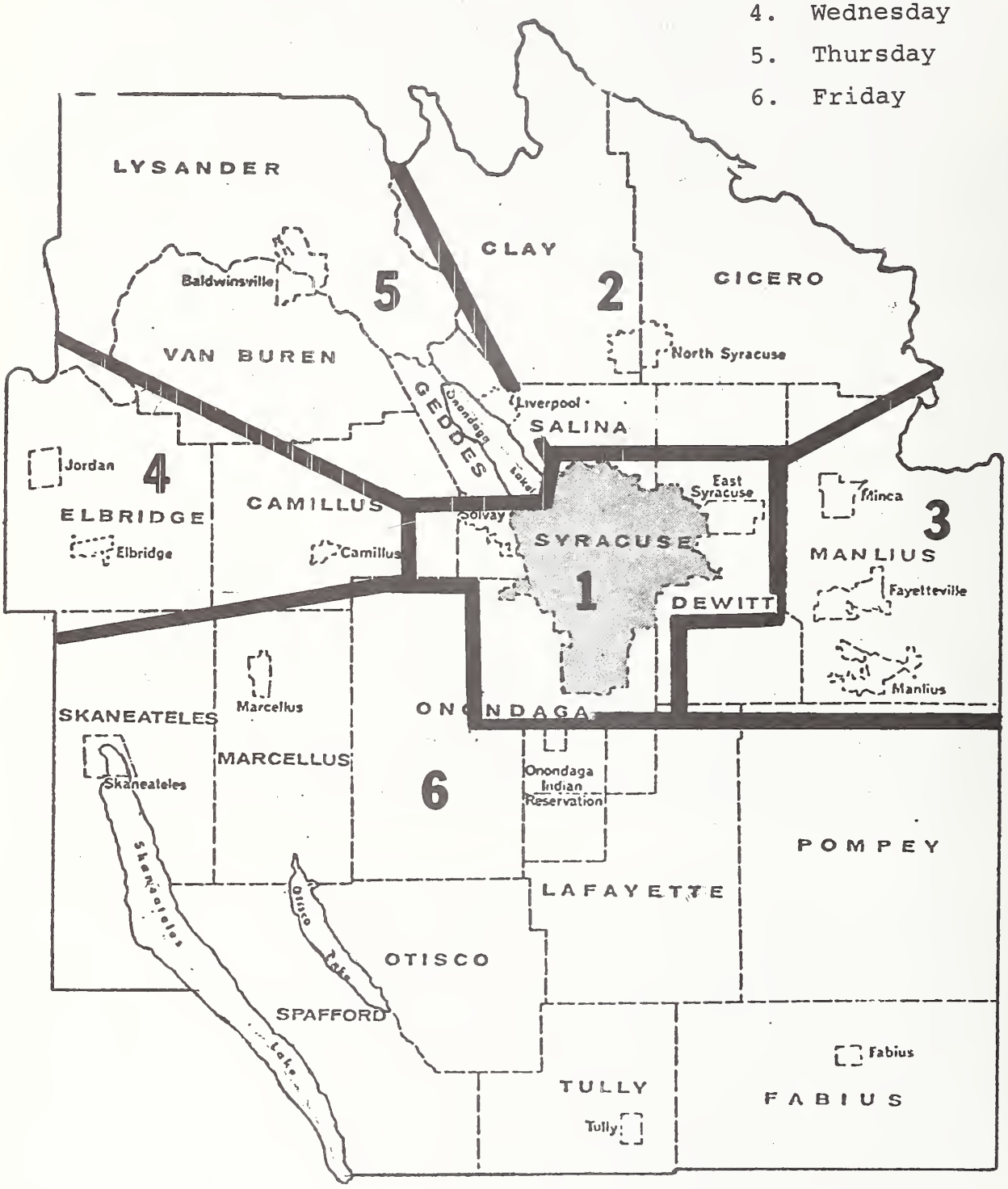
4.2.1.3 Fares - After the first month of Call-A-Bus service, one-way fares for regular service were 50¢ for trips within Syracuse and adjacent suburbs and from 60¢ to $1.00 to or from outlying areas of Onondaga County, depending on the distance traveled. The decision to charge a higher fare for Call-A-Bus service than for regular transit service was made for two reasons. First, the services provided by Call-A-Bus were specialized and more costly to provide. Second, since Call-A-Bus services were designed for those who could not use existing transit services, the higher fare was to deter individuals with the ability to ride the regular-route buses from using Call-A-Bus service.

EXHIBIT 4.3

Service Area

KEY

1. Daily Service Area: (Monday thru Sunday)
2. Monday
3. Tuesday
4. Wednesday
5. Thursday
6. Friday



5 miles

4.2.1.4 Hours of Operation - From October 1973 through August 1974, regular Call-A-Bus service was available during the following hours:

Weekdays	6:00 A.M. to 12:00 Midnight
Saturdays	10:00 A.M. to 6:00 P.M.
Sundays	8:00 A.M. to 4:00 P.M.

The early Sunday start-up time enabled riders to attend church services.

A temporal analysis of Call-A-Bus demand undertaken during the summer of 1974 discovered that a very small percent of total ridership occurred between the hours of 10:00 P.M. and 12:00 Midnight. To increase the overall cost-effectiveness of the system, service was eliminated during these hours in September 1974 in conjunction with the fall driver sign-up. During the remaining 14 months of the demonstration, regular Call-A-Bus service was available during the following hours:

Weekdays	6:00 A.M. to 10:00 P.M.
Saturdays	10:00 A.M. to 6:00 P.M.
Sundays	8:00 A.M. to 4:00 P.M.

4.2.1.5 Scheduling and Dispatching Procedures - Call-A-Bus vehicle tours were manually scheduled. Service requests had to be made according to a minimum 48-hour advance notice system to allow the scheduler to coordinate trip requests so that vehicle tours could be efficiently planned; such coordination increased vehicle productivity.

The Call-A-Bus office housed the Call-A-Bus supervisor, who did the scheduling, and three telephone operators. Individuals wishing to use the system were instructed to dial the special Call-A-Bus telephone number at least 48 hours before their desired trip. The telephone operators were on duty to receive calls from 8:15 A.M. to 5:15 P.M. Monday through Friday. Since the telephone operators did not work on weekends, individuals requesting service on a Monday or Tuesday were required to telephone the office by the previous Thursday or Friday, respectively.

Normally, the maximum lead time for a trip request was one week. To accommodate individuals or agencies who needed service on a regularly-recurring basis, the system accepted periodic requests. Under this system, time slots were reserved on a daily basis for such priority trips as employment and educational training. For example, a disabled individual utilizing Call-A-Bus for work trips on a five-day-per-week basis would not have to call the Call-A-Bus office every day. After the initial request, a call was only necessary when the trip could not be made on a particular day or had to be changed to a different time.

When receiving a service request, the telephone operator requested the following information which was recorded on a trip request sheet:

Name;
Address;
Address of destination;
Appointment time and date;
Return time;
Trip purpose;
Any special assistance needed (i.e., wheelchair-bound, blind, disabled, etc.); and
Telephone number.

The trip request sheets were given to the supervisor the day before the trip. From this, the supervisor developed a schedule and routing pattern for the vehicles. Scheduling was done in approximate 20-minute time slots. Emphasis was given to grouping requests in the same area in order to accommodate the maximum number of passengers. To do this, the supervisor often modified the requested bus arrival time at certain pick-up points, typically by between 10 to 20 minutes. The schedule information was recorded on "driver trip sheets," which provided the drivers with a scheduled pattern of pick-ups and drop-offs for each run. The driver trip sheet also provided the driver with information concerning the fare to be paid by each individual, as well as any special boarding assistance required by the rider.

Upon completion of the driver trip sheets, the telephone operators made return calls to the users in order to confirm the actual times that the buses would pick them up. If a change in the bus arrival time was necessary, the individual was informed of the change when the confirmation call was made. The driver trip sheets were then sent to the CNY Centro dispatcher's office and distributed to the drivers when they reported for duty. Copies of these sheets were retained by the dispatcher and supervisor in case questions arose during that day's operation. If trip requests were received less than the required 48 hours in advance, the Call-A-Bus supervisor would try to fit the request into an existing time slot.

There were normally seven weekday driver runs, one run on Saturday and two runs on Sunday. Each run comprised an 8-hour shift. There were approximately four buses in service between 8:00 A.M. and 6:00 P.M. on weekdays, and fewer buses during the early morning, evening and weekends. An extra bus was put into service if the scheduled runs could not accommodate the entire demand. An extra bus was usually necessary on weekdays between 8:00 and 10:00 A.M. and between 3:00 and 4:00 P.M.

Drivers were regular CNY Centro employees assigned to Call-A-Bus through the normal seniority-based sign-up procedures that occur three times each year. Call-A-Bus runs seemed to be popular among drivers due to their more personal and less routine nature as compared to regular fixed-route runs. In addition, unlike all other CNY Centro runs that are "split-shift," most Call-A-Bus runs were continuous for eight hours. This further increased their attractiveness to drivers.

Trip Purpose Priorities

Early in the project, the CNYRTA staff recognized that demand occasionally exceeded the system's capacity. To handle this situation, the following trip purpose priority system was established:

1. Medical;
2. Employment;
3. Educational training;
4. Personal business (legal, housing, banking, etc.);
5. Shopping; and
6. Recreational and personal visits.

In fact, trip scheduling was done primarily on a "first come-first served" basis. The trip-priority system was generally used to move requests to earlier or later times of the day in order to create more efficient tours. It was rare that a trip request could not be accommodated at some time during the day, but it may have had to be scheduled during the off-peak period and at a different time than requested.

4.2.1.6 Wheelchair Transportation - Wheelchair service began on April 7, 1975, following the delivery of the new small buses equipped with wheelchair lifts. The addition of this service did not result in any major operational changes. The additional time needed to load and unload wheelchair passengers was provided by scheduling. All Call-A-Bus drivers participated in a sensitivity training session at the Upstate Medical Center in Syracuse to promote their understanding of the physiological and psychological needs of disabled passengers. The drivers had also completed Red Cross first-aid courses.

Prior to the initiation of Call-A-Bus wheelchair service, private wheelchair taxi companies expressed the concern that the subsidized Call-A-Bus program might force them out of business. The CNYRTA did not wish to initiate a program that utilized public funds to unfairly compete with a viable private enterprise. Therefore, CNYRTA met with representatives of the private wheelchair taxi companies prior to the start of wheelchair service in order to reach an agreement that would allow both services to operate in harmony. During these discussions, CNYRTA agreed to the following restrictions on Call-A-Bus wheelchair service:

- Call-A-Bus wheelchair service would be confined to curb service only;
- Call-A-Bus drivers would be allowed to assist passengers boarding and disembarking between the bus and the curb;
- Drivers would not be permitted to take passengers to and from the door of their home or destination; and
- Call-A-Bus would not take wheelchair passengers on medical trips which could be reimbursed under Medicaid or other public assistance programs.

Some passengers and social service agencies were concerned about the "curb service only" policy, but CNYRTA felt that the policy was necessary for operational reasons as well as reasons of competitive equity. Insurance factors, drivers' union regulations, and potential long dwell times made such a policy desirable from an operational standpoint.

4.2.1.7 Subscription Services - Subscription services are many-to-one services which are prearranged for regularly recurring demands. For example, daily transportation is provided for a small group of workers from Consolidated Industries, taking them to the CBD where they transferred to regular fixed-route buses. Other examples of these many-to-one trips are described below. These services are provided either by reserving time slots or, in some cases, by using extra buses.

Association for Retarded Children (ARC)

Arrangements were made with the local Association for Retarded Children (ARC) to transport mentally-handicapped adults (over age 21) to and from the ARC Center for daily rehabilitation training. Within New York State, school districts are reimbursed for the transportation of mentally-handicapped school-age children (over age 4 and under age 21), but there is no public support for mentally-handicapped adult transportation. Therefore, the Call-A-Bus program was the only specialized public transportation available for transporting mentally-handicapped persons over the age of 21.

Day Care Transportation

Late in 1974, CNYRTA received a request from the Board of Directors of the West Genesee Day Care Center to transport underprivileged children to the Center. Since the original scope of the Call-A-Bus demonstration was to provide services to the elderly and handicapped, special permission to transport the children was requested from and granted by UMTA. The fare for this program was set at 35¢ per passenger. Service began on March 3, 1975 utilizing the new small buses which were equipped with the necessary seat belts. The West Genesee Day Care Center provided an attendant to ride with the children.

Jordan Nutrition Bus

On July 12, 1974, Call-A-Bus began offering service every Friday to the Jordan Nutrition Program in the village of Jordan. This program, which provided hot meals for the elderly, was operated by the local Community Action Agency (P.E.A.C.E., Inc.) through funding from Title VII of the Older Americans Act. Users were charged a 25¢ fare, and the balance of 25¢ was provided from Title VII funds by the Metropolitan Commission on Aging for Syracuse and Onondaga County. Ridership on the service was low, however, so the program was discontinued in late 1975.

Senior Shopper Trips

During the demonstration, three services operated which transported senior citizens once or twice a month to and from suburban shopping centers, where they were allowed three to four hours to shop. Merchants contributed to the cost of providing these services. CNYRTA then supplied signs for store window displays indicating that the business participated in the senior shopper trip service.

The Fairmount Fair Shopper Bus served Fairmount Fair Plaza west of Syracuse. There was no fare, as the Fairmount Fair Merchants Association paid CNY Centro charter rates (see group trip service, below). The service operated continuously since September 1974, but switched from twice each month to once each month in February 1975. The twice-monthly Northside Shopper Bus serving the P&C/K-Mart Plaza in Mattydale, north of Syracuse, began in October 1974. The P&C Food Corporation supported this service, but withdrew its support in January 1975. The service terminated one month later after having had two trips paid for by the Town of Clay. The Shoppingtown Shopper Bus, serving Shoppingtown Mall in Dewitt, east of Syracuse, began during the demonstration's last month. Users were charged 50¢ for a round-trip with the Shoppingtown Merchants Association making up the difference.

4.2.2 Other Call-A-Bus Services

4.2.2.1 Group Trip Services - Call-A-Bus group trip services were provided to assist institutional and social organizations in providing services to the elderly and handicapped. Any club or organization consisting of or serving elderly or disabled persons could arrange for group transportation to facilities within Onondaga County.

Group trips required a minimum of 15 persons to share the trip. Representatives of the organizations were instructed to call the CNY Centro operations department several days before the trip to reserve a full-size transit bus equipped with a kneeling device. The user cost of the trip was computed by CNY Centro based on a rate of half of the normal charter rates. When the project began, normal charter rates ranged from $35 per round-trip for trips within Syracuse to $57 per round-trip for trips to points further than ten miles from the city center. In addition, a layover time charge of $7 per hour was added for the time that the bus was idle between going and returning. In November 1974, these rates increased by about 20%; costs ranged from $42.50 to $65.00 per round-trip, plus an $8.00 per hour layover charge. CNY Centro billed the sponsoring group for half of the cost, and the Call-A-Bus project for the other half.

The Call-A-Bus staff encouraged all group trips to be scheduled during weekday off-peak hours, when they could most easily be accommodated. They also stressed that group trips should have no more than three or four predetermined pick-up and drop-off points.

4.2.2.2 Summer Camp Transportation (Camp Goodwill) - Camp Goodwill, located just outside of Chittenango, New York, is sponsored by a local Rotary Club and provides special recreation and rehabilitation programs to physically handicapped children under the supervision of trained counsellors for an eight-week period. Transportation of Syracuse youngsters to and from the camp had traditionally been provided by the City of Syracuse School District. When the District stopped providing the service in 1973, Dial-A-Bus provided this transportation and the cost was assumed by the Call-A-Bus demonstration through a special arrangement with UMTA. Call-A-Bus then directly provided the service in 1974 and 1975. Because the Call-A-Bus demonstration was scheduled to end in the fall of 1975, a funding agreement was reached whereby the Call-A-Bus program would provide 100% of the transportation costs during 1973 and 45% and 25% of the costs during 1974 and 1975, respectively. As part of this funding arrangement, Camp Goodwill searched for outside funding sources, so that transportation could be continued after the Call-A-Bus demonstration grant expired. The City of Syracuse and Onondaga County have provided this funding.

In addition to the transportation of Syracuse handicapped children, arrangements were made with the North Syracuse School District in 1974 to carry children from North Syracuse to Camp Goodwill.

4.2.3 Vehicles

Until March 1975, all Call-A-Bus services were provided by regular full-size buses equipped with kneeling devices. During this period, a small depreciation cost was charged against the Call-A-Bus demonstration operating account.

In March 1975, the four small Mercedes-Benz 0309D buses purchased with UMTA capital assistance funds were put into service (Exhibit 4.4). These buses and their ancillary equipment cost a total of $199,265, distributed as follows:

Four buses @ $39,042	$156,168
Four radio units @ $3,470	13,880
Spare parts	6,577
Vehicle modifications (wheelchair lifts)	11,000
Four Keene Corporation fareboxes @ $2,910	11,640
Total	$199,265

Each Mercedes-Benz bus seats ten persons, with space for two additional persons in wheelchairs. The wheelchair lift, operated from outside the bus, is equipped with railing units and a safety belt to prevent any possibility of the chair leaving the lift

EXHIBIT 4.4

CALL-A-BUS PHOTOGRAPHS

Centro President and CNYRTA Executive Director Warren Frank inspects Call-A-Bus lift operation with Call-A-Bus Supervisor Charles Williams and Driver Jim Cummings.

Centro driver assists Dial-A-Bus rider off of regular transit bus.

Children from the West Genesee Children's Center pose with the Center's Director Sharon Leonard Clark and Call-A-Bus Supervisor.

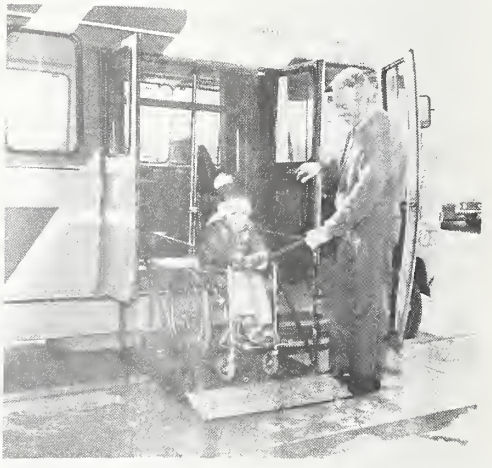
Call-A-Bus driver secures wheelchair passenger in place with a lap belt.

Call-A-Bus riders demonstrate seating arrangements on Call-A-Bus vehicles.

Call-A-Bus Driver Jim Nodecker assists Call-A-Bus passenger to the Salvation Army's Golden Age and Community Center. Mrs. Grace Young, Director of the Golden Age Center (left of driver), looks on.

Call-A-Bus driver is assisting a passenger down vehicle steps. Lower step is an air operated retractable step.

Roslyn Bilford, Executive Director of the Metropolitan Commission on Aging, inspects Call-A-Bus vehicle with Grace Chrissley.

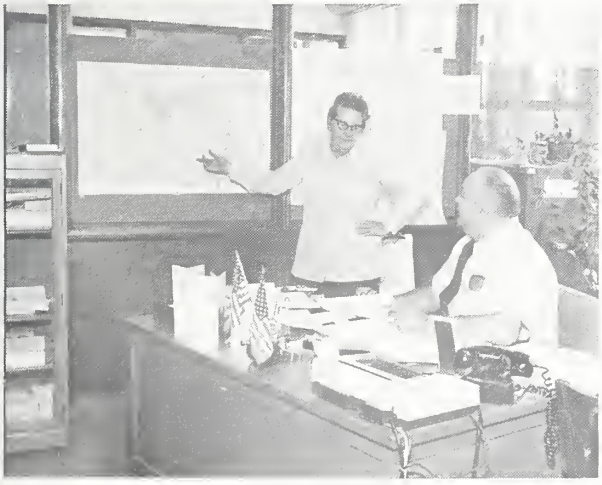


Driver Jim Cummings attaches safety chain and operates lift for Call-A-Bus passenger John Jodleski.

Call-A-Bus passengers and representatives of the Call-A-Bus Advisory Committee, Sally Johnston and Joe Campbell, are shown with Call-A-Bus Driver Roy Spies and John Przepiora of the CNYRTA Program Development staff. The Euclid Community Open House, Inc. is a private non-profit community center that provides extensive programming for the physically disabled.

Centro President and CNYRTA Executive Director Warren Frank conducts a Call-A-Bus operations meeting with Centro and CNYRTA personnel. Shown from left to right are: Ray Shirtz, Centro Operations Manager; Warren Woodruff, Centro General Manager; Warren Frank; Charles Williams, Call-A-Bus Supervisor; John Clare, CNYRTA Coordinator of Transit Development; Joseph Axenfeld, Community Relations; and Rocco Fiermonte, Centro Maintenance Manager.

Call-A-Bus Assistant Supervisor Pat Rienhard (standing) and telephone operators Gertrude Boyd and Margaret Harris.



Call-A-Bus Supervisor Charles Williams confers with Pat Rienhard. The radio console is shown on the lower corner of the desk. Pat Rienhard is standing in front of the day's trip schedules.

The backbone of the Call-A-Bus service is made up of Drivers (left to right): Edward Walsh, Eddie Garrison, Fred House, Bob Reamue, Bill Nodecker, Malcolm Campbell, and Louie Mike.

while in operation. Inside the bus, there are stanchion units with bars extending between the spokes of the wheelchair wheels. These prevent any wheelchair motion while the bus is in operation. Seat belts are provided on all regular seats as well as for wheelchair passengers.

Early in the demonstration, it was found that a considerable number of disabled passengers not confined to wheelchairs were unable to board the vehicle through the regular step entrance. To accommodate these individuals, the Call-A-Bus system purchased four wheelchairs and stored one in the rear compartment of each Mercedes vehicle. When an individual could not board the bus through the step well, the driver removed the spare wheelchair and allowed the person to board by means of the wheelchair lift.

After the small Mercedes buses were placed in service, they were used to provide regular Call-A-Bus service. However, the larger buses continued to be used for group trips, senior shopper trips, and as an extra bus for regular Call-A-Bus service.

4.2.4 Marketing and Promotion

During the entire demonstration period, only $4,643 was spent on advertising and promotional materials; less than 10% of the total was spent during the last nine months of the demonstration. Even without an extensive promotional campaign, the demand eventually saturated the capacity of the regular Call-A-Bus service.

Staff presentations to the client groups of various social service agencies comprised the major component of the Call-A-Bus marketing program. In addition, informational brochures were distributed to over 80 area agencies, churches and activity centers for local distribution. Many stores displayed Call-A-Bus posters and distributed information. A copy of the brochure and other promotional material is included in Appendix A.

At the beginning of the demonstration, radio, television, and newspaper advertising was used to promote Call-A-Bus service. New services were also covered as news, usually favorably. For example, when the new vehicles with wheelchair-lifts were put in service, they were demonstrated during a local morning talk show with an explanation of Call-A-Bus services offered. In May 1975 during National Senior Citizens Month, information on Call-A-Bus appeared as part of a Sunday newspaper supplement dedicated to senior citizens.

Two local movie theatres participated in a promotion by reducing their admission prices from $2.50 to $1.00 for anyone arriving by Call-A-Bus for the Saturday Matinee. The staff also began producing a monthly "Call-A-Bus Newsletter" in June 1974. The newsletter usually contained a calendar of monthly events of interest to users, the latest service changes, a monthly operations report, a column about the drivers, and instructions for using the various services. The newsletter was distributed on-board the vehicles by the drivers and was also sent to several social service agencies for distribution.

4.3 CALL-A-BUS MANAGEMENT

4.3.1 Management Structure

4.3.1.1 CNYRTA Staffing - CNYRTA managed the Call-A-Bus service for the duration of the demonstration period with the organization shown in Exhibit 4.5. The CNYRTA Chief of Program Development devoted 25% of his time as the Project Director, and the CNYRTA Program Assistant served full-time as Project Manager. The Project Director was primarily responsible for managing the project in its early stages, while the Project Manager supervised the project's day-to-day operation. Together, they were responsible for project planning, promotion, personnel selection, specialized equipment purchases, and analysis of system operation. Their responsibilities also included continuing liaison activities with social service agencies and meeting with the Project Advisory Committee and its subcommittees.

Various support functions were performed by other CNYRTA staff members. The Chief Financial Officer was responsible for all financial matters, including budgeting and the preparation of quarterly financial reports. CNYRTA's Administrative Assistant provided promotional and advertising support. The CNYRTA staff members responsible for community relations also assisted the Project Director and Manager.

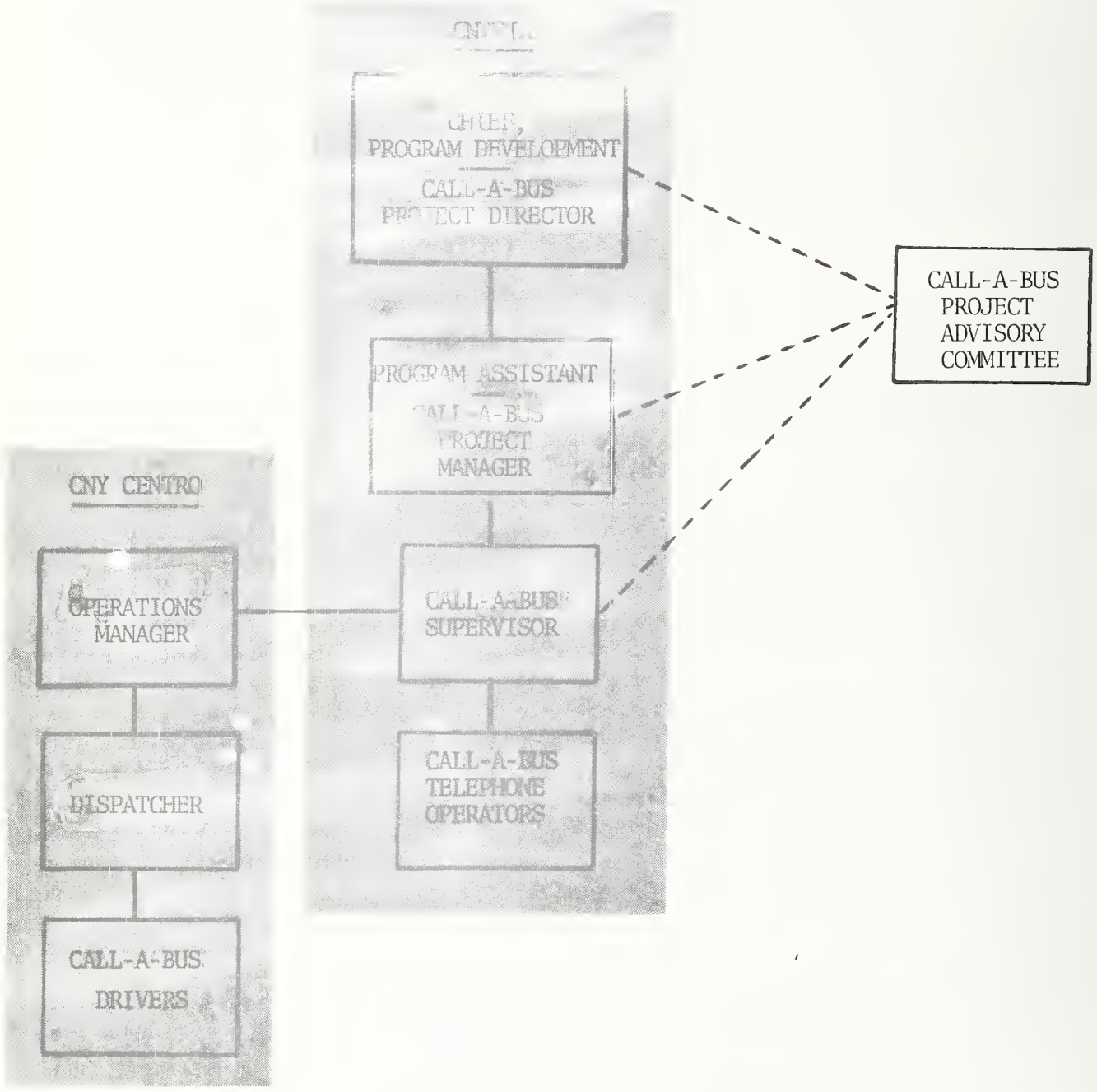
Day-to-day operations were handled by a Project Supervisor and three telephone operators, one serving as Assistant Supervisor. (Their roles are described in Section 4.2.1.5.) Vehicle operations and maintenance were handled by the CNYRTA operating subsidiary, CNY Centro, Inc. CNY Centro was also responsible for providing drivers, dispatching, and equipment. Radio contact with the Call-A-Bus drivers was performed by the CNY Centro base station.

4.3.1.2 Project Advisory Committee - The Project Advisory Committee (PAC) was established by CNYRTA to advise the project staff on program policy. This committee was composed of representatives of various senior citizen and handicapped service organizations and local planning and transportation agencies. Throughout the demonstration project, the Project Advisory Committee provided guidance on service area designation, operating hours, hardware design criteria, scheduling and priority procedures, special consumer needs, complaint procedures, and securing funds for post-demonstration operation.

The following seventeen organizations have been represented on the PAC:

Action Coalition to Create Opportunities for Retirement With Dignity (ACCORD)
All-University Gerontology Center
Areawide and Local Planning for Health Action (ALPHA) -

EXHIBIT 4.5. CALL-A-BUS ORGANIZATION CHART



Central New York Regional Planning and Development Board
Consolidated Industries of Greater Syracuse, Inc.
The Lighthouse, Syracuse Association of Workers for the Blind, Inc.
Metropolitan Commission on Aging
Mizpah Education and Creative Center for the Aging (MECCA)
New York State Department of Transportation
New York State Office of Vocational Rehabilitation
Onondaga County Health Department
Onondaga County Social Services Department
People's Equal Action and Community Effort, Inc. (PEACE, Inc.)
The Salvation Army
Social Togetherness to Answer Needs of the Disabled (STAND)
United Cerebral Palsy and Handicapped Children's Association
Volunteer Center

The PAC met monthly starting in May 1973. Special topics were investigated by subcommittees; for example, a subcommittee on Wheelchair Operations advised on the priorities and operations of wheelchair service. Although its functions were advisory, the Committee's recommendations were generally implemented. It provided a means of defining the existing special transportation needs of the elderly and handicapped and the role Call-A-Bus could play in meeting those needs.

4.3.2 Management Information System

Information recording was essential to facilitate system operation, monitor its performance, and provide the basis for recommended operational changes. Information flowed from the individual making the service request to the telephone operator who recorded the information on request sheets. The request sheets were transferred to the supervisor, who scheduled the vehicle tours on driver trip sheets which, in turn, were distributed to the drivers. The drivers completed the information flow by recording on the trip sheets fares collected and passenger boardings. Drivers also recorded the mileage and number of hours for each run. The request and trip forms were the source documents for evaluation of system performance. Copies of request sheets and driver trip sheets are contained in Appendix B.

The Call-A-Bus supervisor and telephone operators regularly compiled monthly tabulations of the following items: passengers carried; wheelchair trips; vehicle-miles traveled; vehicle-hours of operation; and cancellations. In addition to this data, other trip information--such as trip purpose, origin and destination, and nature of passenger disability--was recorded. Samples have been taken periodically for evaluation studies. For example, an origin-destination study of one week's ridership in March 1974 was used as a basis for recommending the service area change that took effect in December 1974.

Financial data was tabulated monthly on the standard CNY Centro accounting forms. A sample is included in Appendix B.

4.4 SUPPLY IMPACTS

The regular Call-A-Bus fleet of four vehicles was a relatively small addition to the total supply of transportation service in Onondaga County. In addition to the regular CNY Centro fleet of 170 buses, 200 taxis and 20 wheelchair cabs operate within the County. The collection of all social service agencies' fleets numbered 108 vehicles. However, Call-A-Bus had a significant impact because it was the only service, other than that provided by P.E.A.C.E., Inc., providing low-priced door-to-door service for trips not served by an agency.

Call-A-Bus fares were considerably lower than those of other modes offering door-to-door service. The typical 4.0-mile Call-A-Bus trip costs the user 50¢, but would cost $2.75 plus gratuity if the user could make the same trip by regular taxi, assuming Call-A-Bus passenger per-trip loading of 1.2 (see Section 6.3.2.5). Trips by wheelchair cabs cost the user $8 or more. An assumed automobile cost of 16¢ per mile results in a 64¢ user cost for the average Call-A-Bus trip of 4.0 miles, and $1.28 if the person was chauffeured and the driver returned home alone. Agency-provided transportation is generally free for its users, but is usually limited to clients for specific trips, such as traveling to and from the agency.

Thus, Call-A-Bus is considerably less expensive for the user than other demand-responsive modes. However, the service is not as convenient to use as a taxi or wheelchair cab. Unlike taxi service, with a 20-minute or less response time, users are required to request service at least two days in advance, and may have to call nearly one week ahead to assure a reservation at the desired time. Often, passengers cannot travel at the time they desire and, occasionally, the time of the originally scheduled request is altered the day before the trip. Call-A-Bus regular service is also restricted to certain hours of the day, while taxi services operate for 24 hours each day. Finally, unlike wheelchair cabs, Call-A-Bus provides only curb-to-curb wheelchair service; hence, some users may require either being accompanied by someone or may require assistance at both ends of the trip to get between the curb and their origin and destination.

Actual pick-up and drop-off times were not recorded during the demonstration, so no information exists on the actual level-of-service variables such as wait and ride times.

5. EVALUATION DATA AND APPROACH

In Chapters 6 through 8, the results of the Call-A-Bus demonstration are analyzed by examining the project's demand, productivity and economic characteristics, and the impact which the project has had on users and social service agencies. This prefatory chapter describes the data that was available for analysis and the evaluation methodology used. It is written to present an overview of the evaluation approach, so that comparisons to other studies can be more easily made.*

5.1 DATA SOURCES

The Call-A-Bus project staff tabulated the following data each month during the demonstration:

Number of regular service passengers;
Number of wheelchair passengers on regular service;
Number of regular service vehicle-hours (driver-hours);
Number of regular service vehicle-miles;
Number of regular service cancellations;
Regular service operating costs;
Regular service passenger revenues;
Number of group trip excursions;
Number of group trip passengers; and
Group trip operating costs.

A full tabulation of this data is contained in Exhibits 5.1 and 5.2. Using this data, demand trends can be traced over time, and various productivity and performance measures calculated. In Chapter 6, the graphs displaying this data contain a trend line based on a least-squares regression of the 22-month period from January 1974 through October 1975, excluding the initial three-month growth period. Some of the impacts of the major operational changes -- such as the December 1974 service area change -- were also investigated through an analysis of this operational data. For this purpose, variable levels before and after the change were compared and tested for statistically significant differences. Since actual pick-up and drop-off times were not recorded by drivers, no data base exists for calculation of service level measures such as average ride and wait times and reliability.

The Call-A-Bus staff regularly collected additional data during the demonstration, although it was not uniformly tabulated each month. This included information on origins and destinations of regular service trips, regular service trip purposes, the number of regular service passengers with disabilities, and the sponsors of group trips. In addition, the drivers' trip sheets provided a

*In addition to this chapter, more detailed information on the Call-A-Bus experimental design may be found in SYSTAN, Inc., Evaluation Plan for the Syracuse Call-A-Bus Demonstration, Los Altos, California (December 1975).

EXHIBIT 5.1

REGULAR CALL-A-BUS SERVICE OPERATING CHARACTERISTICS

Month	Passengers (Wheelchair)	Vehicle-Hours[1]	Vehicle-Miles	Cancellations	Operating Costs ($)	Operating Revenues ($)
October 1973	801	1,145	5,631	47	13,499	227
November 1973	1,830	1,391	10,319	92	16,568	812
December 1973	2,001	1,386	9,435	100	16,173	774
January 1974	2,842	1,467	12,958	227	17,649	1,190
February 1974	2,821	1,309	11,315	298	15,958	1,202
March 1974	3,201	1,400	13,443	306	17,317	1,447
April 1974	3,252	1,415	13,115	264	17,390	1,503
May 1974	3,536	1,438	14,581	273	17,955	1,596
June 1974	2,914	1,199	13,197	267	15,540	1,324
July 1974	2,516	1,100	12,931	244	14,750	1,223
August 1974	2,410	1,122	12,333	247	15,375	1,147
September 1974	3,203	1,135	13,154	247	15,457	1,528
October 1974	3,818	1,474	15,923	267	18,996	1,988
November 1974	3,607	1,339	15,283	263	17,693	1,969
December 1974	3,671	1,420	14,321	257	18,279	1,915
January 1975	3,734	1,452	15,746	286	18,993	2,015
February 1975	3,343	1,289	13,395	284	20,202	1,617
March 1975	4,147	1,390	15,178	338	21,874	1,906
April 1975	4,405 (61)	1,434	14,746	366	22,250	2,001
May 1975	4,671 (76)	1,423	15,538	271	21,584	2,135
June 1975	4,395 (105)	1,387	15,095	249	22,479	2,040
July 1975	4,044 (107)	1,343	14,042	256	20,029	1,961
August 1975	3,839 (94)	1,229	13,116	272	18,382	1,869
September 1975	4,272 (92)	1,276	14,358	339	18,949	2,005
October 1975	5,205 (198)	1,535	17,772	311	22,948	2,424
TOTAL	84,478	33,498	336,925	6,371	$456,291	$39,817

[1]Entries reflect paid driver hours rather than in-service vehicle-hours. The number of driver hours is about 10% greater than the number of in-service hours due to deadheading vehicles to and from the garage.

EXHIBIT 5.2

CALL-A-BUS GROUP TRIP OPERATING CHARACTERISTICS

Month	Excursions	Passengers (estimate)	Operating Costs* ($)
October 1973	17	1,190	885
November 1973	13	910	527
December 1973	10	705	564
January 1974	11	770	415**
February 1974	10	700	395
March 1974	20	1,400	863
April 1974	25	1,850	955
May 1974	29	2,220	1,280
June 1974	37	2,738	2,123
July 1974	47	3,404	2,297
August 1974	49	3,922	2,350
September 1974	24	1,776	1,058
October 1974	26	1,924	1,307
November 1974	19	1,406	884
December 1974	29	2,146	1,645
January 1975	13	1,040	734
February 1975	19	1,520	1,013
March 1975	27	1,840	1,038
April 1975	31	2,170	1,560
May 1975	43	3,010	2,188
June 1975	40	2,800	2,202
July 1975	52	3,675	3,261
August 1975	49	3,430	3,137
September 1975	17	1,190	1,011
October 1975	28	1,960	1,234
TOTAL	685	49,696	$34,924

* Revenues = 1/2 (Costs)

** Estimate

data base for evaluating demand by time of day or day of week. Generally, this data was analyzed by using a sample of the entire data base.

Four surveys of Call-A-Bus users, taken during or shortly after the demonstration, are analyzed in later chapters of this report. Between March 28 and April 9, 1974, two CNYRTA student interns conducted a short on-board survey of regular Call-A-Bus users, obtaining a total of 66 responses. The survey form and results are presented in Appendix C.

A second, more detailed on-board survey was distributed by regular service Call-A-Bus drivers on a Tuesday, Thursday, and Saturday between January 22 and 29, 1976. One-hundred twenty-two responses were received, nearly twice the sample size of the first survey. The survey form and results are contained in Appendix D.

To measure the characteristics of all users of regular Call-A-Bus service, a mail survey was conducted in February and March 1976. The Call-A-Bus telephone operators had kept a file of names and addresses of all persons using the service since its start. In early 1976, there were approximately 2,000 names in this file; the survey was mailed to every other person. Their intent was to generate a sample size of 400; 342 surveys were returned. The response rate is sufficiently low that there is the possibility that the responders are significantly different than the non-responders, introducing a bias in the results. The survey form and results are contained in Appendix E.

The mail survey surveyed a different population than the on-board surveys; relatively infrequent or former users were more likely to be surveyed by mail, while the infrequent users were more likely to be sampled during the on-board surveys. Thus, the results of the mail survey are more likely to provide information on why some eligible people do not use Call-A-Bus, or use it infrequently.

Finally, a short questionnaire was mailed in August 1975 to 18 persons identified as users of the wheelchair service. Eleven questionnaires were completed and returned. The small sample size precludes detailed analysis. Appendix F contains the survey form and results.

In addition to the above surveys, information on social service agency impacts was derived from the interviews with agency representatives conducted by student interns with CNYRTA.[1]

5.2 EVALUATION METHODOLOGY

The evaluation of Call-A-Bus attempts to ascertain the impacts of the project in the areas defined by the project's objectives. Other impacts not explicitly defined by the project's objectives are also examined in order to fully define the total effect of the Call-

[1] Przepiora, John, Transportation and Social Services for the Handicapped and Elderly (March 1976).

A-Bus project. The evaluation focuses on identifying whether a change has resulted from the project's implementation, the magnitude of the change, and its causes. Changes are compared over time and between different groups, such as between Call-A-Bus and taxi services.

When possible, quantitative measures are employed so that statistically precise statements can be made about the impacts of the project. Changes are usually reported with a level of significance (alpha), which indicates the probability that the difference in results is based on chance for the measurement method used. Significance levels of .05 are generally required before the change is judged to be "significant" (only a 5% chance exists that the change is due to chance alone).

In cases where a result is generated that is not compared to another result, a confidence range is usually reported with the result, if it is based on a sample rather than the entire population (such as a result reported in a sample survey of riders). A 95% confidence range has been used, which corresponds to a significance level of $\alpha = .05$, and may be interpreted as meaning that there is a 95% chance that the true value of the variable (based on the entire population) falls within that range. Conversely, there is a 5% chance that the true value of the variable falls outside of that range.

Many findings of the evaluation are not quantitative in nature, but consist of interpretations of the quantitative data or describe the conduct of the demonstration. These findings are also described to fully define the demonstration's impacts.

6. DEMAND

6.1 CALL-A-BUS USERS

6.1.1 Market Penetration

By the close of the demonstration, approximately 2,000 persons had used the regular Call-A-Bus service, other than the subscription and senior shopper services. As discussed in Section 3.1, the Call-A-Bus target population consisted of about 27,000 persons, about 6% of the Onondaga County population. The 2,000 riders of regular Call-A-Bus service represented an estimated market penetration against the target population of about 7.4%.[1] It is not known how many individuals used the group trip service.

The mail survey of users disclosed that market penetration varied according to several demographic factors. For example, market penetration appears to be greatest among the oldest age groups; 25% of those surveyed reported their age as over 80, while the number of users in each younger age grouping was sequentially smaller. Only 8.3% of users responding, or a projected total of about 170 persons, were under age 55 and therefore handicapped users. This indicates that a much lower market penetration occurred among non-elderly handicapped persons than among elderly persons.

Market penetration among females was also found to be greater than among males, with 85% of the users being female. As a reference point, only 60% of the general Onondaga County population over 65 is female, and even among those over 75 years old, only 63% are female.

6.1.2 Sources of Call-A-Bus Information

All three major user surveys disclosed that about 40% of Call-A-Bus users first heard about the service through friends or relatives, suggesting a significant diffusion of information. The mass media and social service agencies were the other main sources of initial information.

The main source from which users received their information about how to use the system, eligibility, etc.--was the Call-A-Bus telephone operators. Friends, relatives, and social service agencies were also important. Information brochures played a relatively insignificant role compared to the general information diffusion process among users.

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[1] This figure assumes that only persons having difficulty using regular transit actually used CAB, and that CAB riders do not use the system only because it is more convenient or safer than regular transit. The relatively low usage among the younger elderly age groups (55-65) who would presumably have less difficulty using regular transit suggests that this assumption is realistic.

6.2 PROFILE OF USERS

All of the information in this section refers to users of the regular Call-A-Bus service, and excludes the children carried to the West Genesee Day Care Center.

6.2.1 Demographic Characteristics

6.2.1.1 Sex - An analysis of 2,908 passenger requests between March and May 1974 undertaken by CNYRTA staff showed that 86.2% were from female passengers. A similar study of 11,431 requests between January and June 1975 disclosed that 89.5% were by females. The users' mail survey respondents were 85% female. The two on-board surveys disclosed that about 80% of the ridership was female, the lower number probably due to sampling. These studies all confirm the overwhelmingly disproportionate usage of Call-A-Bus by women. The use by females is also slightly higher than the 73% figure for regular bus ridership.

6.2.1.2 Age - Both on-board surveys indicate that ridership tended to concentrate in the older age groups. The fact that the market steadily diminishes with increasing age (due to mortality) confirms that Call-A-Bus has had the greatest market penetration in the oldest age groups. For example, there are approximately six times as many riders over age 65 as between 55 and 65; yet the general population of these two age groups is about the same. This result suggests that those between 55 and 65 years of age, even when eligible to use a specialized service for the elderly, are much less likely to use it than older persons.

The use of Call-A-Bus by the non-elderly handicapped (those under age 55) rose significantly between 1974 and 1976 as a result of two subscription services for the handicapped (ARC and Consolidated Industries) beginning during that period and the start of wheelchair service. Persons under age 55 increased from 10% to 20% of the ridership.

When surveyed by mail, the total user population was found to be considerably older than that surveyed on-board. The most significant difference was in the greater number of persons responding to the mail survey who reported themselves to be 80 years of age or older. When statistically tested to see if older users were less frequent users, therefore making them less likely to be surveyed during the on-board surveys, a fairly significant inverse association between age and frequency of Call-A-Bus use was found.[1] In addition, it may be that the oldest passengers--because of their infirmity--were less likely to respond to an on-board survey but were able to complete a mail survey in their home.

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[1] A chi-square level of significance in a cross-tabulation was found to be .10.

6.2.1.3 Income - The mail survey asked users to report their approximate monthly income; although one-quarter of the sample did not respond to the question, slightly more than half of those responding reported a monthly income of $250 per month or less. The mean monthly income of Call-A-Bus users was estimated to be $284 per month. Although there is no income eligibility requirement for Call-A-Bus, it is possible that those respondents with higher incomes were less likely to report their income. Even after making allowance for this possible bias, the survey results indicate the limited financial resources of Call-A-Bus users.

Social security payments constituted the bulk of the users' incomes. Over one-third of the users reported only social security income, and another third reported a combination of social security with one other source, usually a pension. Very few users received wages or salaries.

6.2.1.4 Automobile Ownership - Of those users responding to the mail survey, 64.7% reported that an automobile was not owned by anyone in their household. Of those using Call-A-Bus more than once a month, 70% came from households without a car. This confirms the high degree of transit dependence of the Call-A-Bus market.

These results can be compared to a November 1971 on-board survey of all fixed-route riders in Syracuse. In that survey, 45.5% of the ridership indicated that no one in their household owned a car, a significantly smaller proportion of the total ridership than that reported by Call-A-Bus users.[1] Thus, Call-A-Bus ridership is considerably more dependent on transit than the general transit user population.

6.2.2 Travel Characteristics

6.2.2.1 Trip Purpose - The largest study of trip purposes used a sample of 7,830 trips made between January and June 1975. The results shown in Exhibit 6.1 indicate that medical-related trips are the most common trip. Call-A-Bus is also used for a variety of other travel purposes. The least frequent trip purpose was shopping, which accounted for less than 2% of the trips made. The on-board surveys generally confirmed these results, and also indicated that Sunday demand--unlike that of weekdays--tends to be generally for recreation and personal visits. Male riders were found to make fewer social and recreational trips; their tripmaking was more likely to be for medical or work purposes.

[1] Wilbur Smith and Associates, Syracuse Transit Improvement Study, January 1973, Page 50.

EXHIBIT 6.1

STUDY OF TRIP PURPOSES: JANUARY - JUNE, 1975

TRIP PURPOSE	NUMBER	PERCENT	95% CONFIDENCE RANGE
Medical	2326	29.7	28.7-30.7
Employment	829	10.6	9.9-11.3
Social Service Agency	715	9.1	8.4-9.8
Shopping	142	1.8	1.5-2.1
Personal Visit	852	10.9	10.2-11.6
Recreation	1054	13.5	12.7-14.3
Personal Business	1675	21.4	20.5-22.3
Educational Training	237	3.0	2.6-3.4
	7830	100.0	

When Call-A-Bus users were surveyed by mail, 52% of those responding said that they usually used Call-A-Bus for medical trips, a considerably higher figure than that reported in the other ridership surveys. The difference is accounted for by the fact that infrequent users of Call-A-Bus, who were more likely to be included in the mail surveys, tended to use Call-A-Bus predominantly for medical trips. Of those using Call-A-Bus once per month or less, 62% used it for medical purposes; those using it more than once per month included only 38% reporting a medical trip purpose.

6.2.2.2 Call-A-Bus Usage - The two on-board surveys taken in 1974 and 1976 suggested that there has been an increase over time in the number of Call-A-Bus riders who are frequent users. In 1976, about half of the riders reported using Call-A-Bus twice a week or more, and about one-quarter of the ridership were steady users (more than three trips per week). Male users tended to be more frequent users; 41% rode more than three times per week compared to 21% of the females. About 7% of the riders were first-time users on the days of the survey, suggesting that after two years, Call-A-Bus continued to attract new riders.

When asked how much of their local travel was done on Call-A-Bus, riders were evenly divided among the four choices, which ranged from "all or almost all" to "very little." Male riders depended on Call-A-Bus more heavily than females: 62% used the service for most, almost all, or all of their local travel compared to 39% of the female riders. Thus, ridership was fairly well divided between frequent and occasional users. This is in contrast to regular transit ridership, which consists primarily of persons making daily worktrips.[1]

Those responding to the mail survey included many more infrequent users; 58% reported using Call-A-Bus only once per month or less, and about the same number said that very little of their travel was done by Call-A-Bus.[2] Most of those surveyed said that they used either regular buses or were driven in order to do most of their local traveling; many respondents listed several modes of transportation. About 12%, or an estimated 240 persons, said they used Call-A-Bus for most of their local travel, suggesting that this is the approximate size of the population totally dependent on Call-A-Bus.

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[1] 74% of the Syracuse fixed-route system's riders use the bus four or more days per week, and 72% use it to travel to and from work (Wilbur Smith & Associates, op.cit.).

[2] The mail survey results may be extrapolated to be made more directly comparable to the on-board survey results. The following hypothetical rider distribution would result if this is done using the assumed monthly frequencies as stated:

Mail Survey Response	User Distribution (mail survey)	Hypothetical Rider Distribution (based on mail survey)	Actual Rider Distribution (1/76 on-board survey)
3 times/week or more (34 trips/month assumed)	2.0%	22.8%	26.5%
2-3 times/week (11.0 trips/month assumed)	6.0	22.2	24.8
Once/week (4.4 trips/month assumed)	14.7	21.4	20.5
2-3 times/month (2.5 trips.month assumed)	19.0	16.0	13.7
Once/month or less (0.9 trips/month assumed)	58.3	17.6	14.5

6.3 RIDERSHIP PATTERNS

6.3.1 Total Ridership

6.3.1.1 Regular Service - As shown in Exhibit 6.2, regular Call-A-Bus service ridership grew steadily over the life of the demonstration, and reached a high of 5,205 passengers in October 1975, the last month of the demonstration. Some seasonal variation can be detected: Fall (September-November) and spring (March-May) ridership was generally 15%-20% above winter (December-February) and summer (June-August) ridership. The winter decline may be attributed to adverse weather conditions, when the transit-dependent user probably travels less; the summer decline results from the suspension of many activities and recreational programs during the summer months.

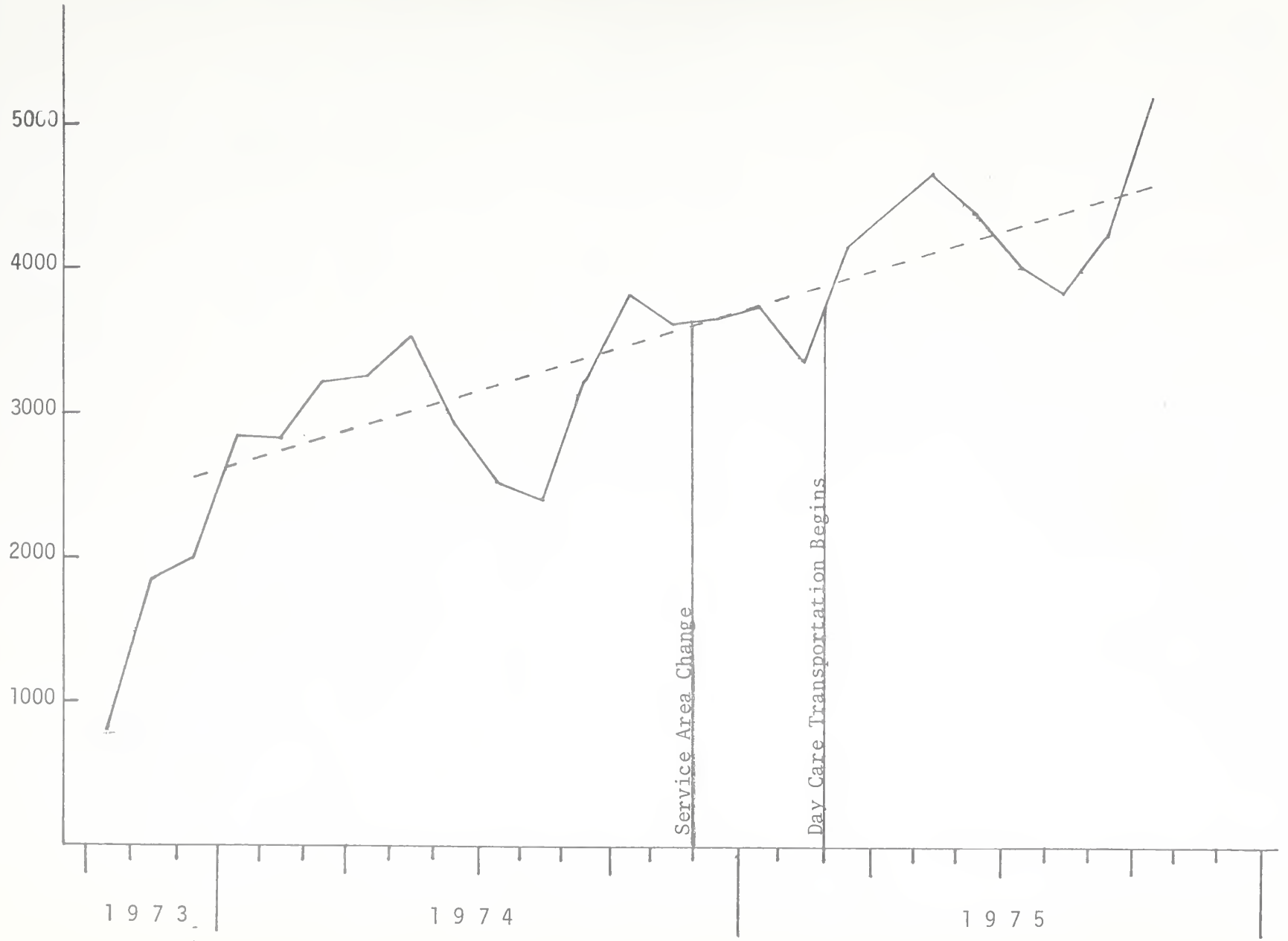
A large part of the regular service ridership in later months consisted of subscription ridership, especially day care transportation and transportation provided to the ARC Center. Day care transportation accounted for about 1,000 passenger-trips per month; ARC service carried about 500 passenger-trips monthly. Together, they accounted for about one-third of the total Call-A-Bus regular service ridership during most of 1975. Another 150 monthly passengers were transported from Consolidated Industries. Senior shopper trips generally carried around 15 passengers each way. Thus, during the busiest period, when there were two bi-monthly shoppers' specials, about 120 passengers per month were carried. Initially, ridership on the Jordan Nutrition Bus consisted of 14 persons each week (28 trips). This number dropped to half that in 1975 before the program was discontinued.

Service for handicapped persons confined to wheelchairs began on April 7, 1975 and averaged about 120 passengers per month between June and October 1975. This represented 2.7% of the total regular Call-A-Bus service ridership. The telephone operators also recorded trip requests by blind persons and infirm passengers needing assistance in boarding. An analysis of the September and October 1975 operating records disclosed that there was an average of 247 blind and 180 infirm passengers per month, representing 5.2% and 3.8% of the total ridership, respectively.

The wheelchair-confined, blind and infirm passengers together thus accounted for about 12% of the total regular service ridership, and about 16% of the ridership when day care transportation is excluded. The results of the 1976 on-board survey, however, suggested that a greater number of passengers are handicapped, since 20% of the riders indicated that they were under 55 years old, and were therefore using the service because they were handicapped. In addition to wheelchair, blind and infirm passengers, there are other classes of handicapped persons carried by Call-A-Bus, such as the mentally retarded, epileptic persons, deaf persons, etc. No record of the number of passengers with these other disabilities has been kept, because it was perceived that users were offended when the nature of their disability was asked. Reasonable estimates would be that between 10% and 15% of regular service passengers need some type of assistance in boarding, and 20% to 25% are disabled in some way.

EXHIBIT 6.2

NUMBER OF MONTHLY PASSENGERS (REGULAR SERVICE)



Cancellations

Cancellations were defined to include "no-show" cases, when the bus arrived at an address and there was no passenger waiting, as well as cases when a person phoned to cancel a request. As shown in Exhibit 6.3, cancellations per passenger decreased from approximately 10% near the beginning of the demonstration to 7% at the end. The large increase at the beginning of the project may have been due to inconsistent reporting or service problems, while the system learned to accomodate the demand levels experienced.

The major reason for cancellations was that the potential user became ill on the day of the scheduled trip. Other reasons included bad weather conditions (especially during the winter months when there was heavy snowfall or sub-zero temperatures) and cancellations of appointments by doctors' offices. Individuals who found it necessary to cancel a trip were requested to telephone the Call-A-Bus office as soon as possible so the driver could be notified and the daily routing schedule modified.

Prior to the installation of the two-way radio system on the Call-A-Bus vehicles in June 1974, drivers were sometimes notified of trip cancellations by means of a telephone relay process. When a cancellation occurred during the day's operation, the supervisor would determine the driver's next pick-up stop by referring to the office copy of the driver trip sheet. The supervisor would then telephone the individual waiting to be picked up and request that they relay the cancellation information to the driver when the bus arrived. Although awkward, this method gave riders the feeling that they were an integral part of the system's operation. After installation of the two-way radio system, cancellation information was communicated much more easily and quickly through radio contact between the driver and supervisor.

6.3.1.2 Group Trip Service - The number of group trips and group trip ridership underwent considerable seasonal fluctuation (Exhibits 6.4 and 6.5). Group ridership during the summer months was more than twice as great as during the fall and winter, primarily because the summer weather is more conducive to the social and recreational activities that group trips served. The busiest month was July 1975, when 3,675 passengers were carried on 52 group excursions.[1]

In an analysis of 604 group trip excursions (88% of all excursions during the demonstration), 73 sponsors were identified. Exhibit 6.6 categorizes these sponsors into the following six classifications:

Nursing homes and hospitals;
Religious-affiliated groups;
Government agencies;
Senior citizen centers and clubs;
Housing developments (public and private); and
Private and non-profit social service agencies.

[1]Group trip ridership is estimated by CNYRTA when the actual number of passengers on the excursion is unknown. A factor of 70 passengers per excursion (35 passengers each way) has generally been used.

EXHIBIT 6.3

CANCELLATIONS PER 100 PASSENGERS (REGULAR SERVICE)

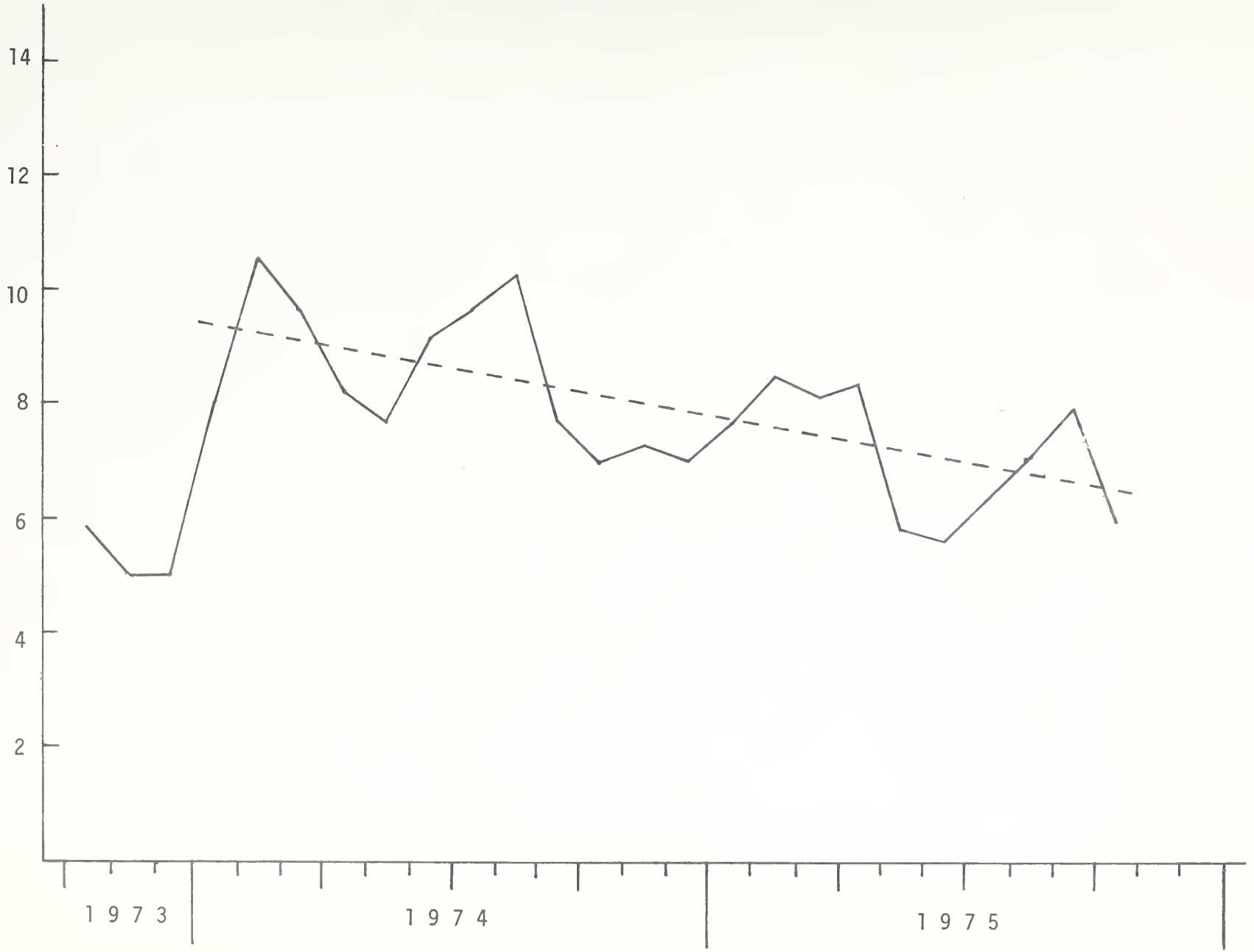


EXHIBIT 6.4

NUMBER OF MONTHLY PASSENGERS (GROUP TRIP SERVICE)

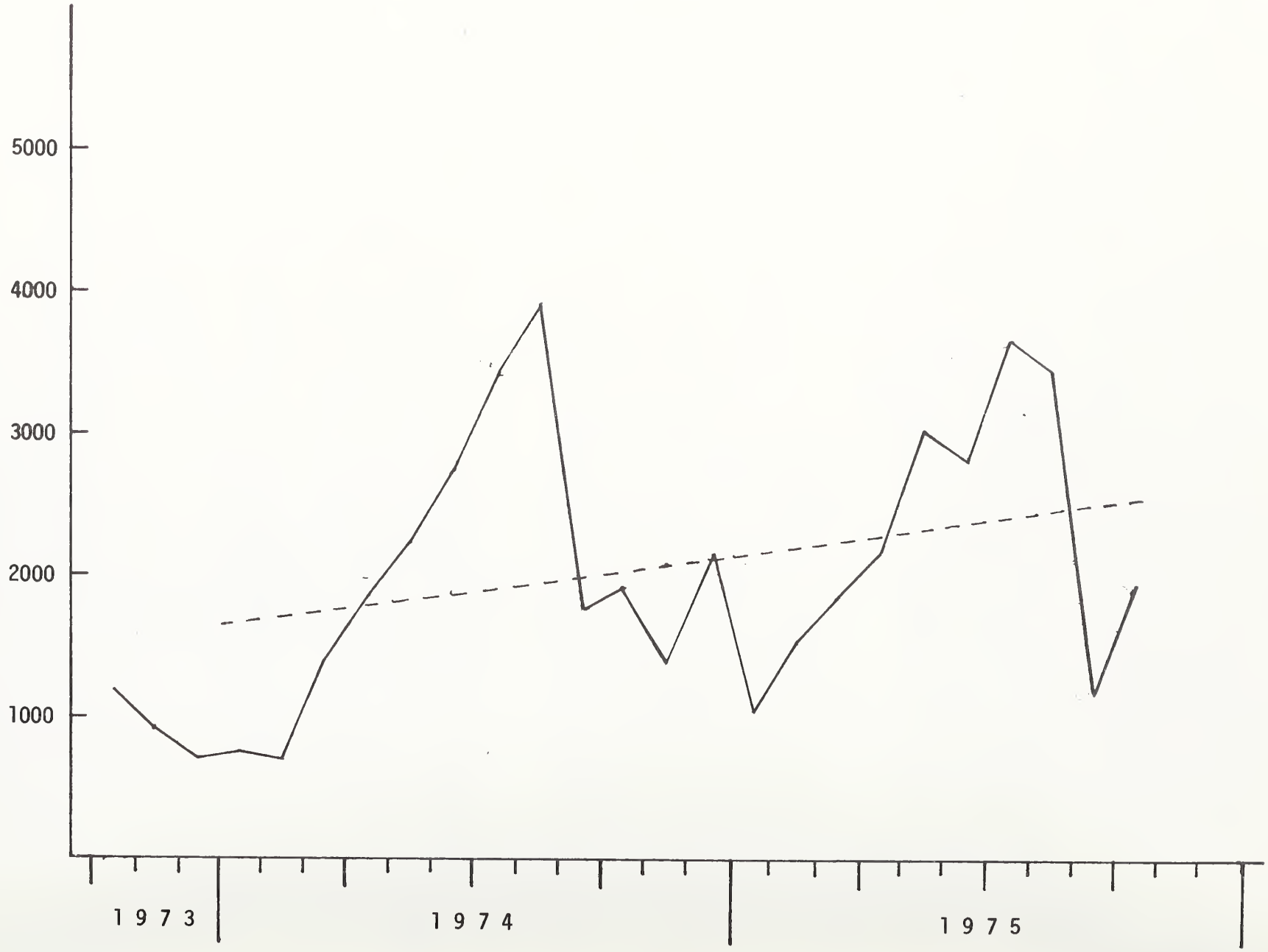


EXHIBIT 6.5

NUMBER OF MONTHLY GROUP EXCURSIONS (GROUP TRIP SERVICE)

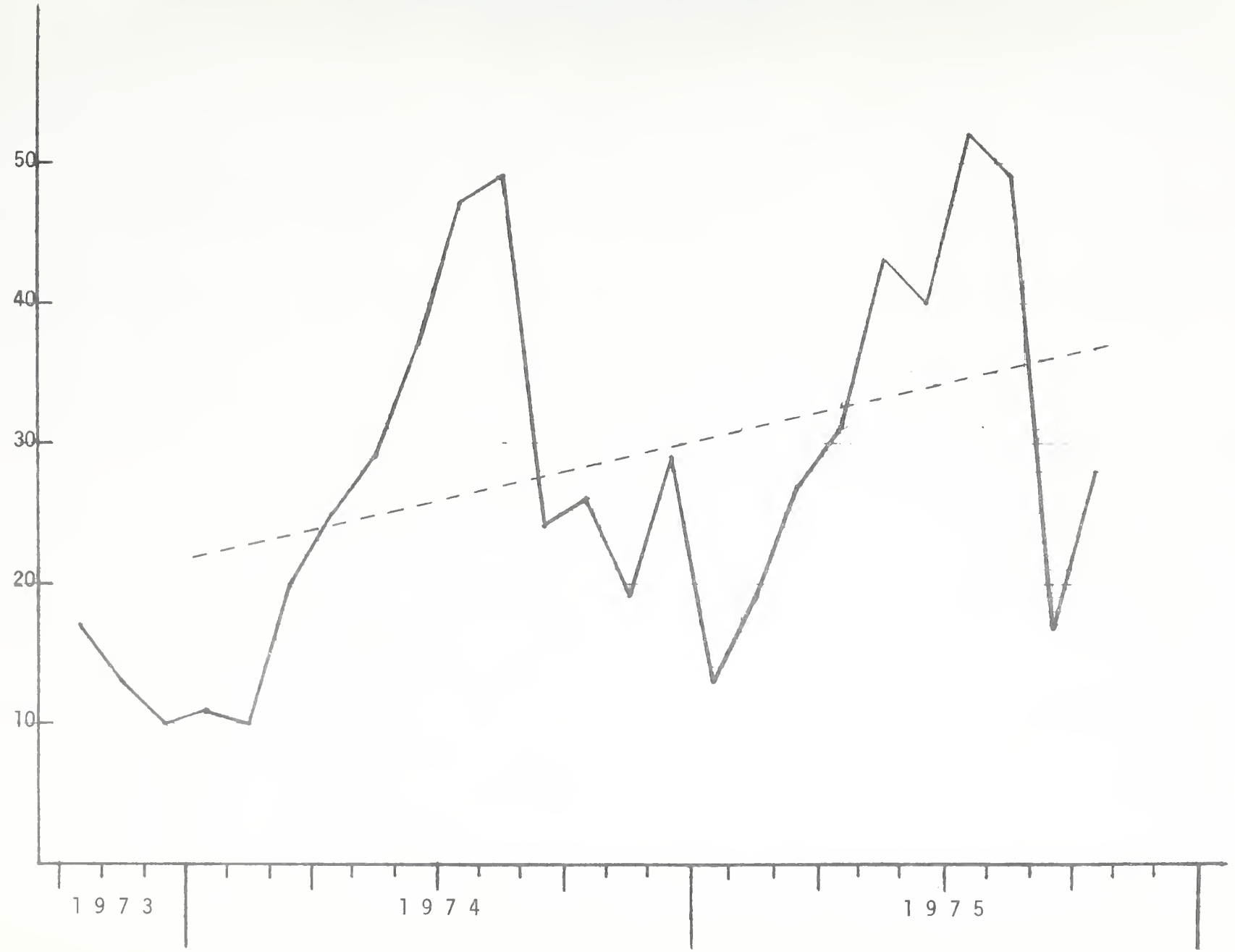


EXHIBIT 6.6: SPONSORS OF GROUP TRIPS

based on 604 trips between October 1973 and
October 1975 (88% of all group trips made in that period)

TYPE OF ORGANIZATION	NUMBER OF TRIPS (Percent of Total)	NUMBER OF ORGANIZATIONS (Percent of Total)	AVERAGE NUMBER OF TRIPS/ ORGANIZATION	STANDARD DEVIATION(σ)	BIGGEST USERS (more than 10 trips)
Nursing Homes; Hospitals	255.5(42.3%)	7(9.6%)	36.5	48.8	Plaza Nursing Home (131) Van Buyn Home & Hospital (59) Loretto Geriatrics (54)
Religious Groups	108(17.9%)	22(30.1%)	4.9	4.6	Jewish Community Center (14.5) St. Ann's Church (14) Holy Cross Church (12.5) Emmanuel Episcopal Church (12)
Government	88.5(14.7%)	11(15.1%)	8.0	10.6	Town of Salina (37) Onondaga Parks & Recreation (17)
Senior Citizen Centers & Clubs	82.5(13.7%)	20(27.4%)	4.1	5.6	MECCA Senior Citizens (24) Wagon Wheel Senior Citizens' Center (14)
Housing Developments	48.5(8.0%)	9(12.3%)	5.4	4.6	Bernadine Apartments (13) Vinette Towers (12)
Private Social Service Agencies	21(3.5%)	4(5.5%)	5.3	3.2	----
All Organizations	604(100.0%)	73 (100.0%)	8.3	17.9	

Nursing homes and hospitals accounted for the greatest number of group excursions. Three organizations -- Plaza Nursing Home, Van Duyn Home and Hospital, and the Loretto Geriatrics Center -- accounted for 244 or 40% of all group trips. Excluding these three institutions, the average organization sponsored about five trips over the two-year demonstration, and about one-third sponsored only one trip. The large number of diverse organizations sponsoring Call-A-Bus group trips indicates that this service had a broad impact. Numerous small and informal organizations were able to secure reasonably priced group transportation through the Call-A-Bus group trip service.

6.3.1.3 Camp Goodwill - Exact Camp Goodwill ridership was not recorded. During 1973, approximately 30 children were transported each way; in 1974 and 1975, approximately 50 children were transported. This results in approximately 1,200 monthly passengers in 1973 and 2,000 monthly passengers in 1974 and 1975.

6.3.2 Temporal and Spatial Travel Patterns (Regular Service Only)

6.3.2.1 Demand by Day of Week - An analysis of ridership during a four-month period in 1974 disclosed that ridership on Tuesdays, Thursdays and, to a lesser extent, Wednesdays was significantly higher than on other days of the week (Exhibit 6.7). A similar analysis done one year later, however, found that weekday ridership was much more uniform. The increase in demand which occurred between these two studies was, of course, handled on the days when the system had sufficient capacity. This assumes that the scheduling of trips for medical appointments and the like can, to some extent, be controlled by the patron.

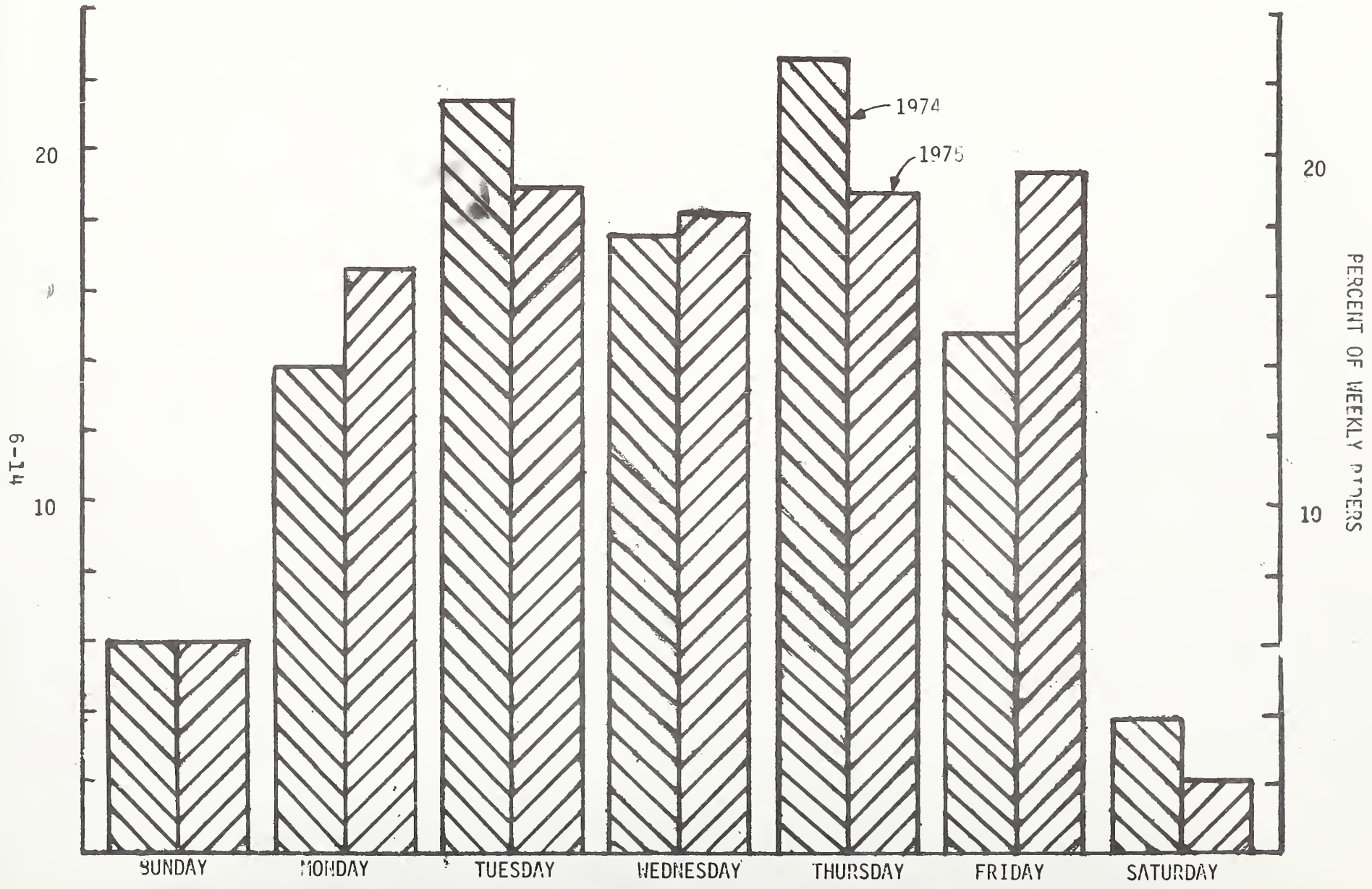
Few medical appointments and small subscription ridership on weekends meant that ridership on Saturday and Sunday was considerably lower than on weekdays. Saturday ridership was especially low, while on Sunday, many people traveled by Call-A-Bus to church.

6.3.2.2 Demand by Time of Day - Weekday regular Call-A-Bus service tended to peak sharply between 3:00 and 4:00 P.M., with a smaller peak following 8:00 A.M. These peaks occurred in 1974 (Exhibit 6.8) because subscription transportation to and from the ARC Center was provided during these periods. In the 1975 study (Exhibit 6.9), the peak periods were more pronounced than in 1974 due to day care transportation. The system could accommodate these sharp variations in demand because of the high loading factor on the subscription runs. Ridership before 7:00 A.M. and after 5:00 P.M. was light, prompting Call-A-Bus management to end weekday service at 10:00 P.M. as of September 1974. (Actually, demand was low after 5:00 P.M., and a cutback of service to 5:00 P.M. would have produced further efficiencies; see Section 8.3).

Weekend ridership is generally more uniform than on weekdays, but a midday peak existed on Saturday.

EXHIBIT 6.7

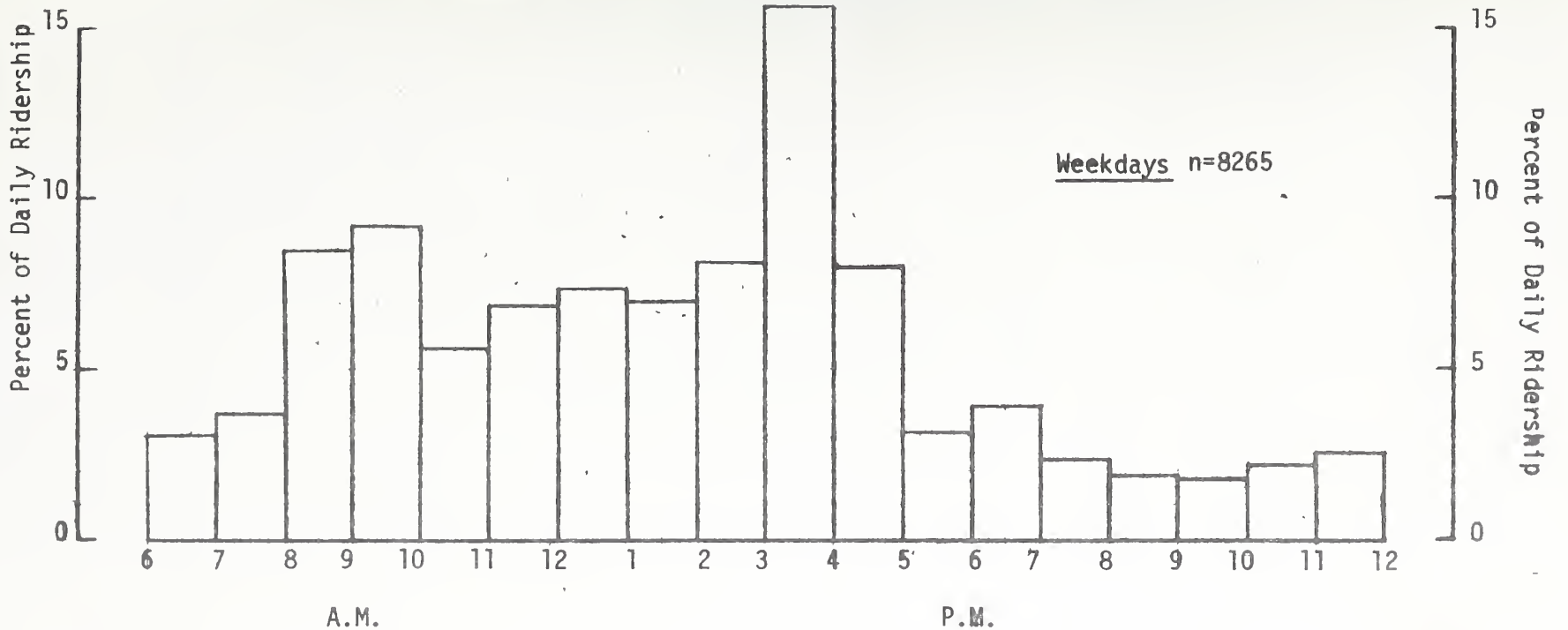
CALL-A-BUS RIDERSHIP BY DAY OF WEEK

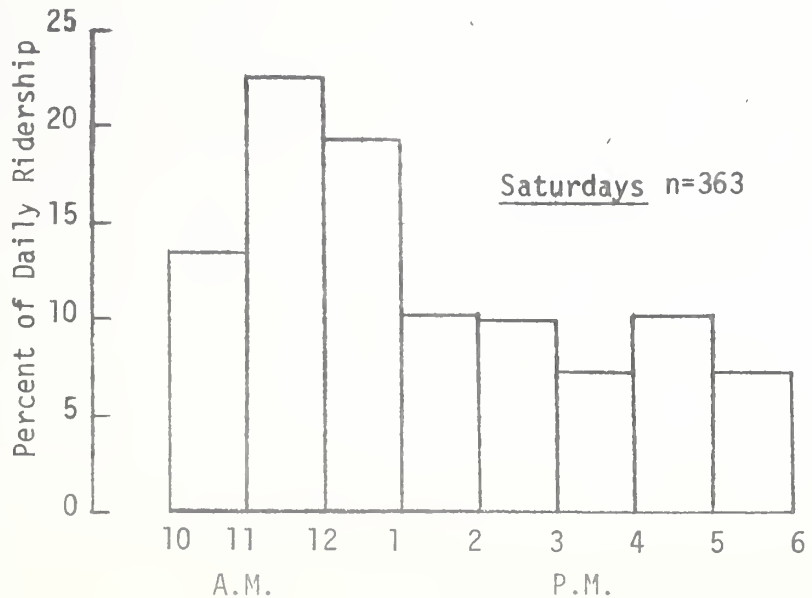


Based on 9216 passenger demands between March and June, 1974 and 17,618 demands between March and June, 1975

EXHIBIT 6.8

CALL-A-BUS RIDERSHIP BY TIME OF DAY, MARCH-JUNE 1974





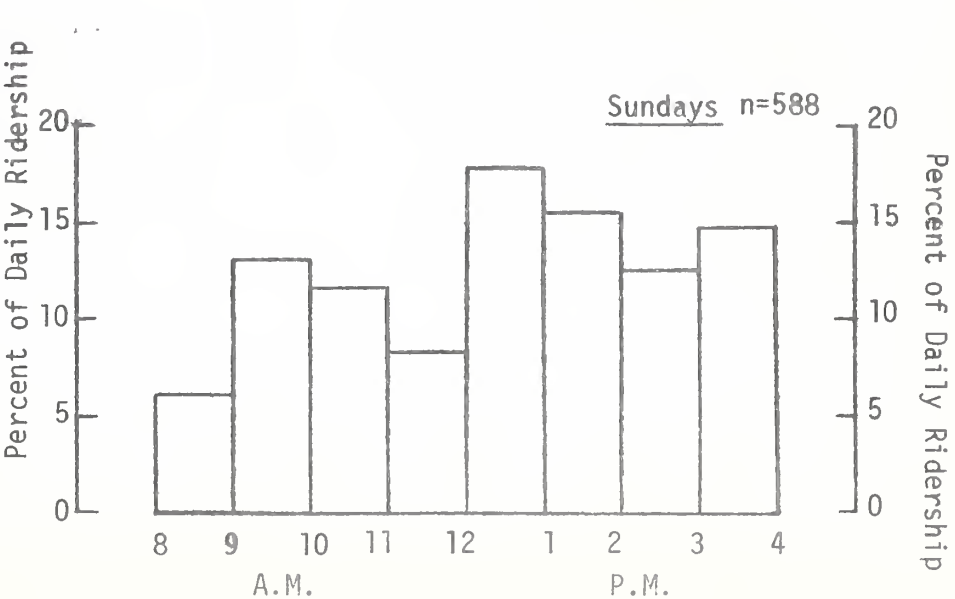
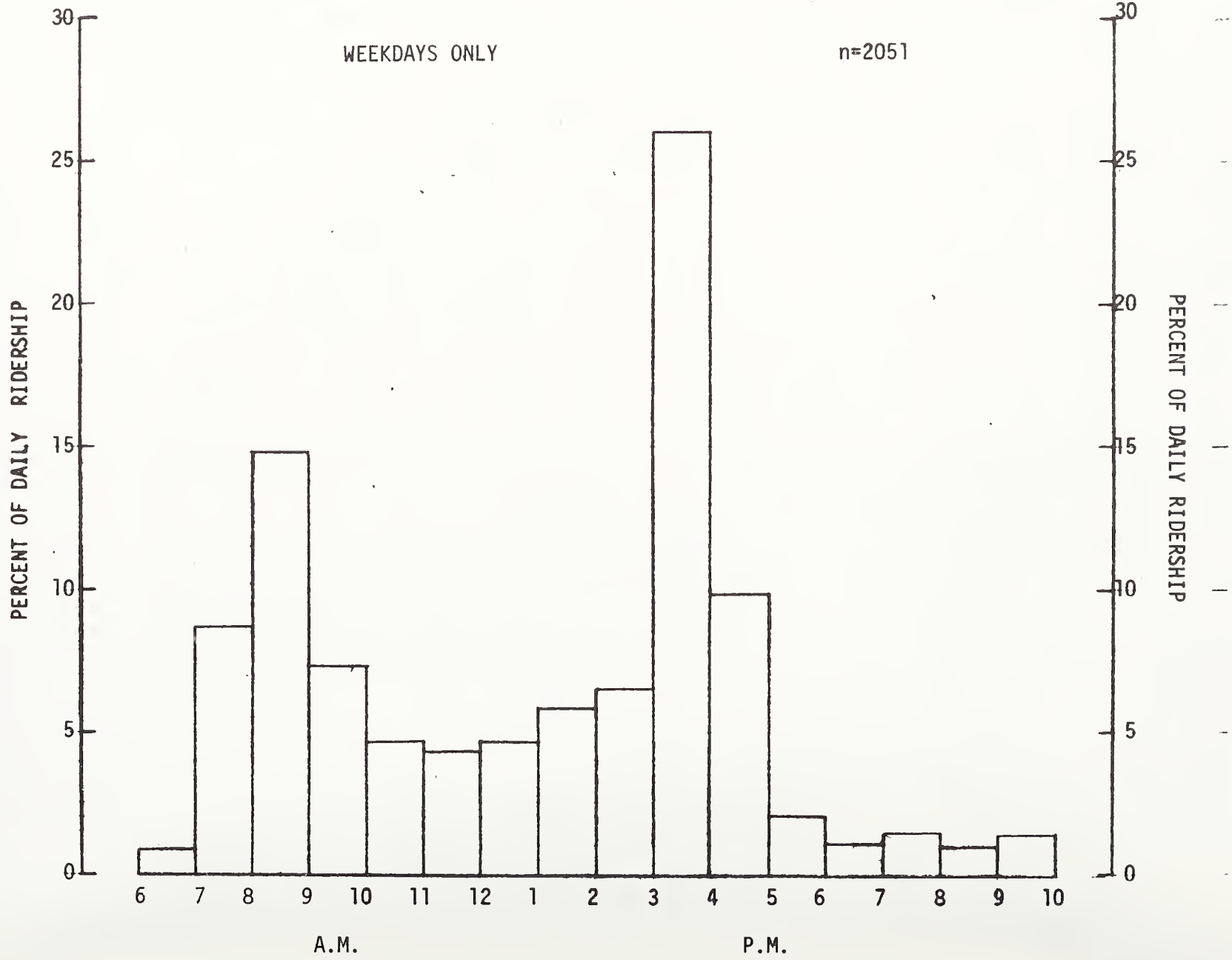


EXHIBIT 6.9: WEEKDAY CALL-A-BUS RIDERSHIP BY TIME OF DAY, OCTOBER 20-31, 1974



6.3.2.3 Origin-Destination Patterns - Two Call-A-Bus demand distribution studies have been made. The first was based on 506 passengers in March 1974, and was part of the Call-A-Bus evaluation conducted at that time by CNYRTA. A follow-up study based on 1,247 passengers in October 1975 was done for comparative purposes as part of the overall demonstration evaluation. In the latter study, only 972 trip origins could be located because the origins of day care trips could not be determined. In both studies, 34 zones were used to classify origins and destinations. The zones were comprised of census tracts in order to compare ridership and eligible population within each zone.

The analysis in Section 3.1 revealed that the City of Syracuse had a much greater concentration of elderly persons than the remainder of Onondaga County. According to the 1970 Census, 58% of the County's elderly population (65 years of age and over) lived in Syracuse, compared to 42% of the general population. Since the overwhelming majority of Call-A-Bus riders are over 65, the demand for Call-A-Bus was expected to concentrate in Syracuse. Also, the majority of activity centers attracting Call-A-Bus demand, such as medical and social service facilities, were located in Syracuse.

The two demand studies confirm this hypothesis. In the March 1974 study, when seven-day-per-week service was still being provided to the entire county, 59.1% of all trips were entirely within Syracuse, 32.6% had one trip-end in Syracuse and one trip-end outside Syracuse, and only 8.3% of the trips began and ended outside Syracuse. The December 1974 service area change, which limited service to residents outside of Syracuse and a few suburbs to one day a week, further concentrated demand within Syracuse. In the October 1975 study, 71.6% of the trips were entirely within Syracuse, 24.9% were between Syracuse and a point outside, and 3.5% of the trips began and ended outside of Syracuse. These two studies indicate the high usage of Call-A-Bus by Syracuse residents in comparison to suburban and rural residents of Onondaga County.

Exhibits 6.10 and 6.11 show the distribution of 1975 trip origins relative to the elderly population in 34 zones based on aggregated census tracts. The data indicates the low market penetration in outlying areas compared to market penetration within the City of Syracuse 89% of all trip origins were inside Syracuse. Call-A-Bus use was slightly greater in the southern areas of the City.

Call-A-Bus destinations, shown in Exhibits 6.12 and 6.13, tend to concentrate in the central areas of Syracuse and nearby areas to the west, where the ARC Center, West Genesee Children's Center, and Consolidated Industries are located. These activity centers are the destinations of Call-A-Bus subscription tours. Two areas outside Syracuse also attracted a substantial number of trips. The area closest to Syracuse contains the Community General Hospital; the second contains a restaurant which was the destination of a Sunday outing on regular service during the study period. The data also indicates that most users made round-trips from and to their residences.

EXHIBIT 6.10

TRIP ORIGINS PER 100 ELDERLY RESIDENTS

(Based on 780 Trips in October 1975)

City of Syracuse

0

.1-.9

1.0-1.9

2.0+

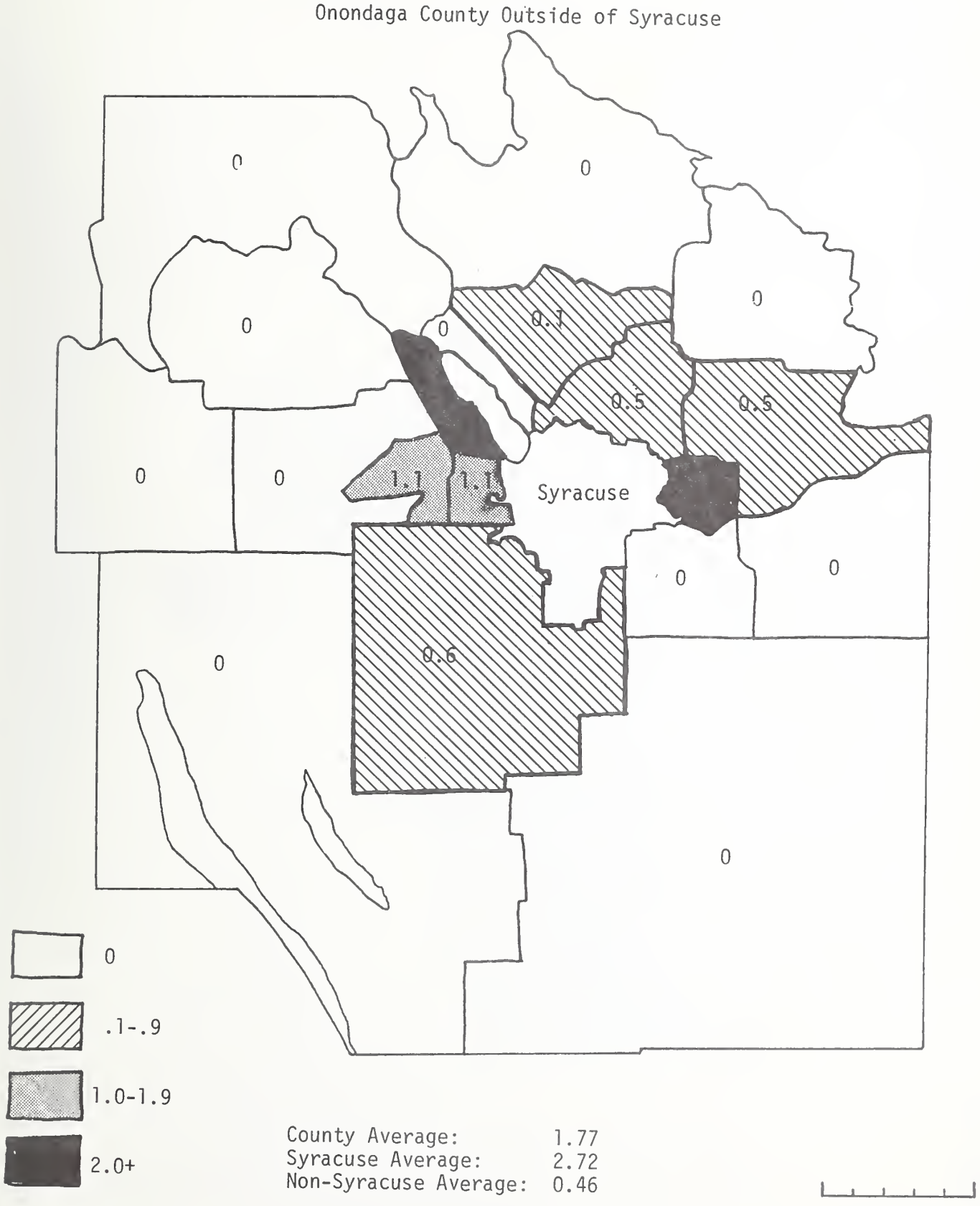
County Average: 1.77
Syracuse Average: 2.72
Non-Syracuse Average: 0.46

1 mile

EXHIBIT 6.11

TRIP ORIGINS PER 100 ELDERLY RESIDENTS

(Based on 780 Trips in October 1975)



County Average: 1.77
Syracuse Average: 2.72
Non-Syracuse Average: 0.46

5 miles

EXHIBIT 6.12

TRIP DESTINATIONS PER 100 ELDERLY RESIDENTS

(Based on 982 Trips in October 1975)

City of Syracuse

0

1-9

10-49

50+

County Average/Zone: 28.9
Syracuse Average/Zone: 53.6
Non-Syracuse Average/Zone: 9.4

1 mile

EXHIBIT 6.13

TRIP DESTINATIONS PER 100 ELDERLY RESIDENTS

(Based on 982 Trips in October 1975)

County Average/Zone: 28.9
Syracuse Average/Zone: 53.6
Non-Syracuse Average/Zone: 9.4

5 miles

6.3.2.4 Trip Lengths - The two origin-destination analyses discussed above were also used to determine the average Call-A-Bus trip length. This was done by measuring the straight-line distances between the centers of each zone for all zonal combinations. Trips from one zone to another were assumed to be from one center to another; trip lengths between zones were assumed to be equal to the average radius of that zone. The average straight-line trip length for all passenger trips was calculated to be 3.15 miles in 1974 and 3.47 miles in 1975. Using a factor of 1.3 to account for the street layout,* the average passenger trip distance was found to be 4.1 miles and 4.5 miles for 1974 and 1975, respectively.

This statistically significant (α less than .01) increase in trip length is surprising, as the daily service area was smaller when the longer trips were taken. The increase is explained by the aforementioned ten-mile trip taken by 30 persons from Syracuse to a restaurant in the southeast portion of the County. Although this type of trip has the characteristics of a group trip, it was handled by regular service. The average trip length for the 1975 analysis would have been 4.0 miles if this trip were excluded. Therefore, it is concluded that trip lengths did decrease slightly, but not statistically significantly, after the service area change. Four miles is used as the trip length for subsequent computations in this report.

6.3.2.5 Passengers Per Trip - The October 1975 study also revealed that 876 passengers, excluding day care passengers and the unusual group trip (Section 6.3.2.4), were carried on 736 trips with distinct origins and/or destinations. Therefore, the passengers per trip or the number of persons traveling together averaged 1.2, a figure used when equivalent taxi costs for Call-A-Bus service are calculated.

6.3.3 Effect of Service Availability on Project Demand

The service limitations of the regular Call-A-Bus service had some effect on the demand for the service. The most obvious limitation was the restriction of daily service to the Syracuse area and one-day-a-week service to outlying areas. Some of the attitudes expressed in the mail survey referred to the inconvenience this policy caused. However, this service area reduction presumably allowed the Call-A-Bus system to handle a larger passenger demand, since it permitted more efficient dispatching. The impact of the service area cutback seemed to change the O/D patterns of the demand, rather than lowering the actual size of the demand.

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*For a theoretical area with a perfect grid street system and trips equally likely to be generated in all directions, a street adjustment factor of 1.273 is obtained:

$$\int_0^{\pi/2} \frac{\sin X + \cos X}{\pi/2} = 1.273$$

During most of the demonstration, the system operated close to capacity between 7:00 A.M. and 5:00 P.M. Users found it necessary to call nearly one week in advance to insure that service would be available during the times requested. Many passengers had to accept pick-up times that were different from those originally requested. In some cases, a user's schedule was sufficiently flexible to accommodate the change, while in other cases, appointments could not be changed. Although the Call-A-Bus scheduler attempted to minimize such disruptions, in some cases they could not be avoided and the customers were presumably forced to cancel their travel plans or use another travel mode.

An extra bus and driver were used during busy times of the day to handle extra demand. The extra bus was usually employed between 8:00 and 10:00 A.M. and between 3:00 and 4:00 P.M. This practice has been discontinued since the demonstration's conclusion in October 1975 due to budget constraints, and ridership has consequently declined to around 4,200 passengers per month.

7. PRODUCTIVITY AND ECONOMICS

7.1 SYSTEM FINANCIAL DATA

7.1.1 Regular Service

Total operating costs for regular Call-A-Bus service during the 25 months of the demonstration were $456,291. These costs have been divided into nine categories, as shown in Exhibit 7.1. Bus depreciation charges were included in operating costs only until the new Mercedes-Benz buses began operation. Since the new buses were purchased through a separate UMTA capital grant, their costs were not included in demonstration operating costs. Since each bus cost about $50,000, a straight-line depreciation over a 500,000-mile estimated life would result in an additional cost of 10¢ per vehicle-mile between February 1975 and October 1975. This would increase total costs during that period by about $13,000 (7%). Drivers' wages were the largest single item, comprising 42% of all costs. Typical of transit operations, Call-A-Bus service was labor-intensive, requiring approximately 80% of total costs for wages and benefits.

Exhibit 7.2 contains the unit costs used by CNYRTA to allocate costs to the demonstration. Some costs were allocated on a per-mile basis while others were allocated on a per-vehicle-hour basis. Recurring, miscellaneous, or fixed costs refer to those costs assessed independently of the number of vehicle-miles or vehicle-hours logged. The Call-A-Bus scheduler's salary is the main item in this category. The total operating cost is the sum of the unit costs times the number of vehicle-miles and -hours, plus the independent costs.

The largest single-cost item was drivers' wages. For cost allocation purposes, CNYRTA calculated total CNY Centro drivers' wages (including overtime, extra board wages, spread time, etc.) and divided it by the number of vehicle-hours driven. When the demonstration began, this was calculated to be $5.09 per vehicle-hour. This rate was used until February 1975, when the rate was raised to $6.85. Actual driver hourly wages during the demonstration ranged from $4.16 per hour in October 1973 to $5.13 in October 1975.

During the 25 months of the demonstration, $39,817 was collected in passenger revenue, which was equal to 8.7% of the total costs. An operating ratio (revenues/costs) of about .10 had been achieved by the final months of the project. Exhibit 7.3 charts total costs and revenues by month for the entire demonstration period.

7.1.2 Group Trips

Total costs for operating group trips during the demonstration were approximately $35,000. The cost of group trips was based on the CNY Centro charter rates (see Section 4.2.2.1). Sponsoring organizations paid 50% of the total group trip costs.

EXHIBIT 7.1

CALL-A-BUS DEMONSTRATION OPERATING COSTS

FOR OCTOBER 1973 TO OCTOBER 1975

(Regular Service Only)

Total 25-month demonstration period costs = $456,290.54

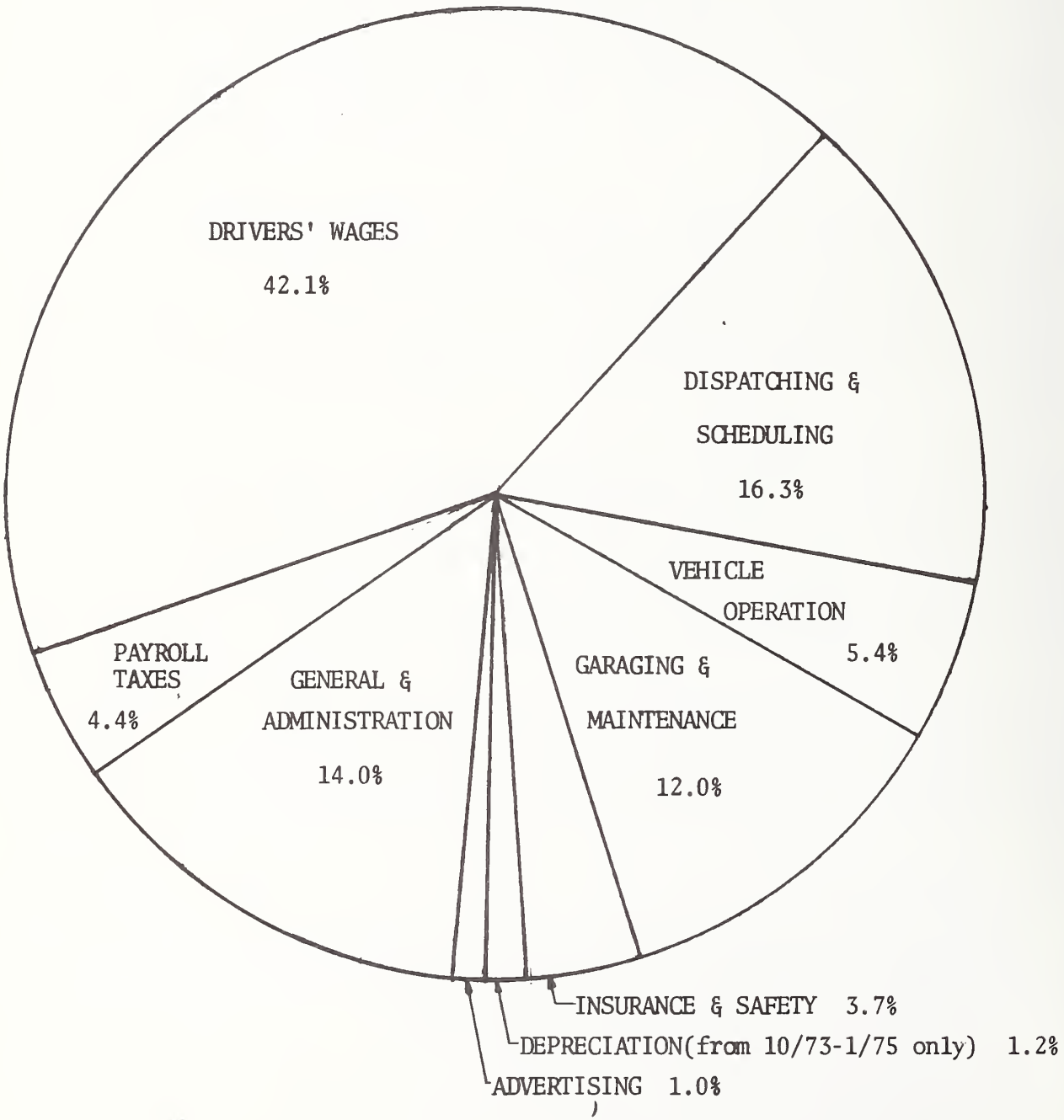


EXHIBIT 7.2

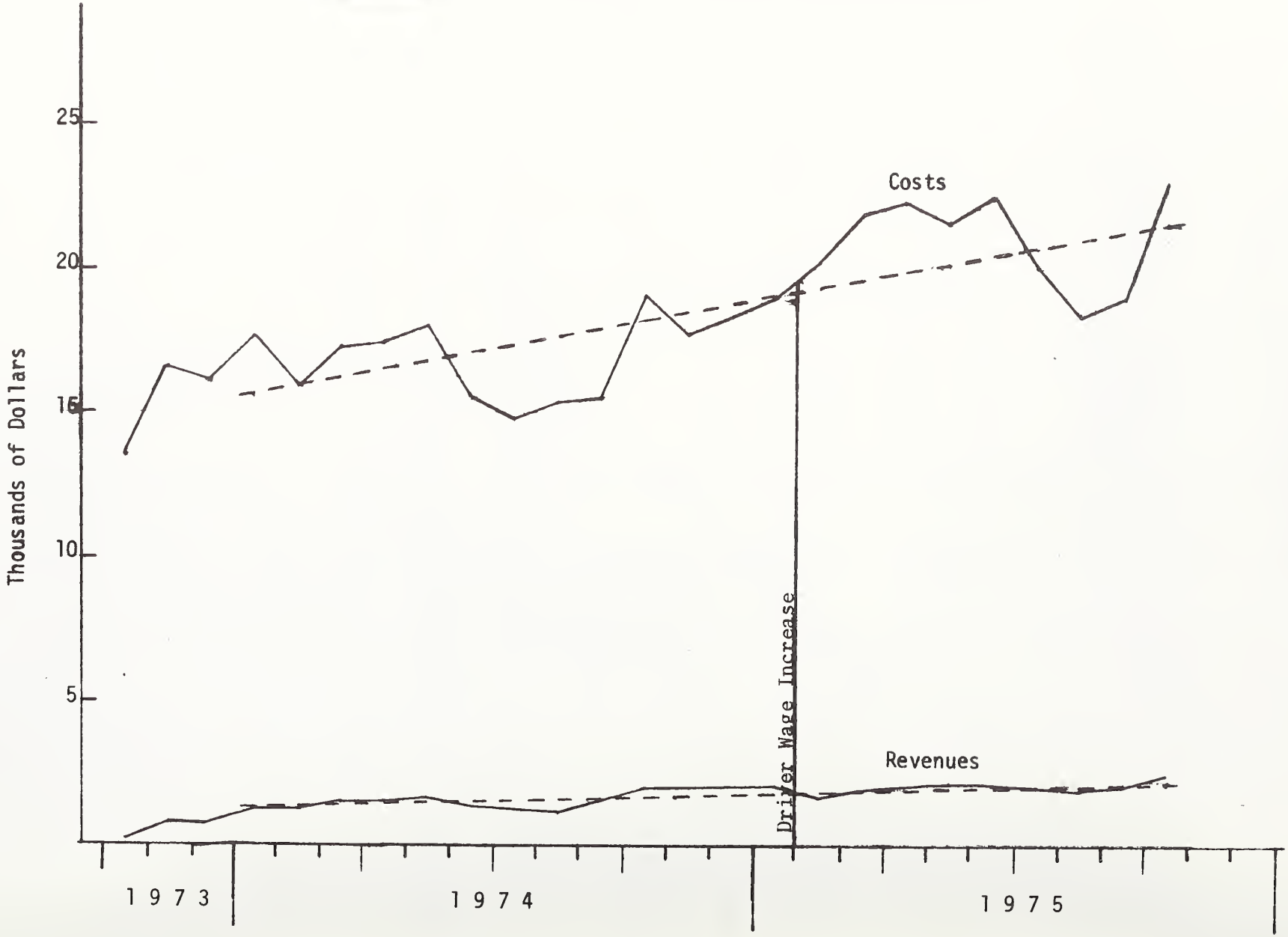
UNIT COST ASSUMPTIONS

Cost Category	Percent of Total Costs	UNIT COSTS		Recurring, Miscellaneous, or Fixed Costs (per month)
		Cents/ Vehicle-Mile (start-end)	Dollars/ Vehicle-Hour (start-end)	
Drivers' Wages	42.1		5.09-6.85	
Dispatching & Scheduling	16.3		.50-.66	$1796-$2738
General & Administrative	14.0		1.48-1.92	$141-$1400
Garage & Maintenance	12.0	12.95-15.03	.28-.39	
Oil, Fuel & Other Operating Expenses	5.4	6.12-7.71	.10-.16	
Payroll Taxes	4.4		.52-.55	0-$169
Insurance & Safety	3.7	2.71-2.40	.23-.27	
Depreciation	1.2		.25-0	
Advertising	1.0		.20-0	0-$405
TOTAL	100.0	21.78¢-25.14¢	$8.65-$10.80	$2171-$3702

Ranges indicate the minimum and maximum costs during the demonstration period. Most unit costs changed in February 1975.

EXHIBIT 7.3

MONTHLY OPERATING COSTS AND REVENUES (REGULAR SERVICE)



The overall Call-A-Bus recovery factor--combining regular and group trip services--was 11.7%. The net service cost of both regular and group trip services was $433,946, or $17,358 per month.

7.1.3 Camp Goodwill

In 1973, when Call-A-Bus paid the entire cost of transportation to Camp Goodwill, $9,444 was spent. During 1974 and 1975, total costs were $9,942 and $8,427 respectively, from which Call-A-Bus paid $4,465 and $2,107. The City of Syracuse and Onondaga County made up the difference. Thus, total Call-A-Bus expenditures for summer camp transportation were $16,016.

7.1.4 Pre-Demonstration Costs

In addition to the costs mentioned above, $3,954 was charged to and Call-A-Bus demonstration prior to the start of service for administrative planning.

7.2 SYSTEM PRODUCTIVITY DATA

7.2.1 Operating Statistics

The number of regular service vehicle-hours supplied remained fairly constant over the demonstration's life, at an average of 1,340 vehicle-hours per month. Vehicle-hours typically consisted of about 56 regularly-scheduled weekday vehicle-hours (seven eight-hour work shifts), three extra vehicle-hours each weekday, 16 vehicle-hours on Sunday, and eight vehicle-hours on Saturday. The number of vehicle-miles, however, increased during the first nine months as demand increased and there was less idle vehicle time. During the latter part of 1974 and all of 1975, approximately 15,000 vehicle-miles were driven each month. Effective vehicle speed rose rapidly to around 11 miles per hour during the first nine months, corresponding to the increasing vehicle mileage during that period. This was soon followed by a 7% drop in vehicle speed when the service area was changed in December 1974. At that time, more operations occurred in the central areas where traffic speeds are lower. A slight increase then occurred in 1975.

Two basic vehicle productivity measures for Call-A-Bus regular service--the number of passengers per vehicle-hour[1] and the number per vehicle-mile--are shown in Exhibits 7.5 and 7.6. Though both measures rose substantially over the 25-month period, the increase in passengers per vehicle-hour is more dramatic since it is affected by the decrease in vehicle idling time, which is not considered in the passengers per vehicle-mile measure. By the close of the demonstration, regular Call-A-Bus service was carrying 3.4 passengers per vehicle-hour and 0.3 passengers per vehicle-mile. Vehicle productivity has leveled off since then at around 3.2 passengers per vehicle-hour.

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[1]Vehicle-hours reflect paid driver hours rather than in-service vehicle-hours. This results in a reported vehicle productivity that is about 10% lower than that which would be obtained using in-service hours.

EXHIBIT 7.4

EFFECTIVE VEHICLE SPEED (REGULAR SERVICE)

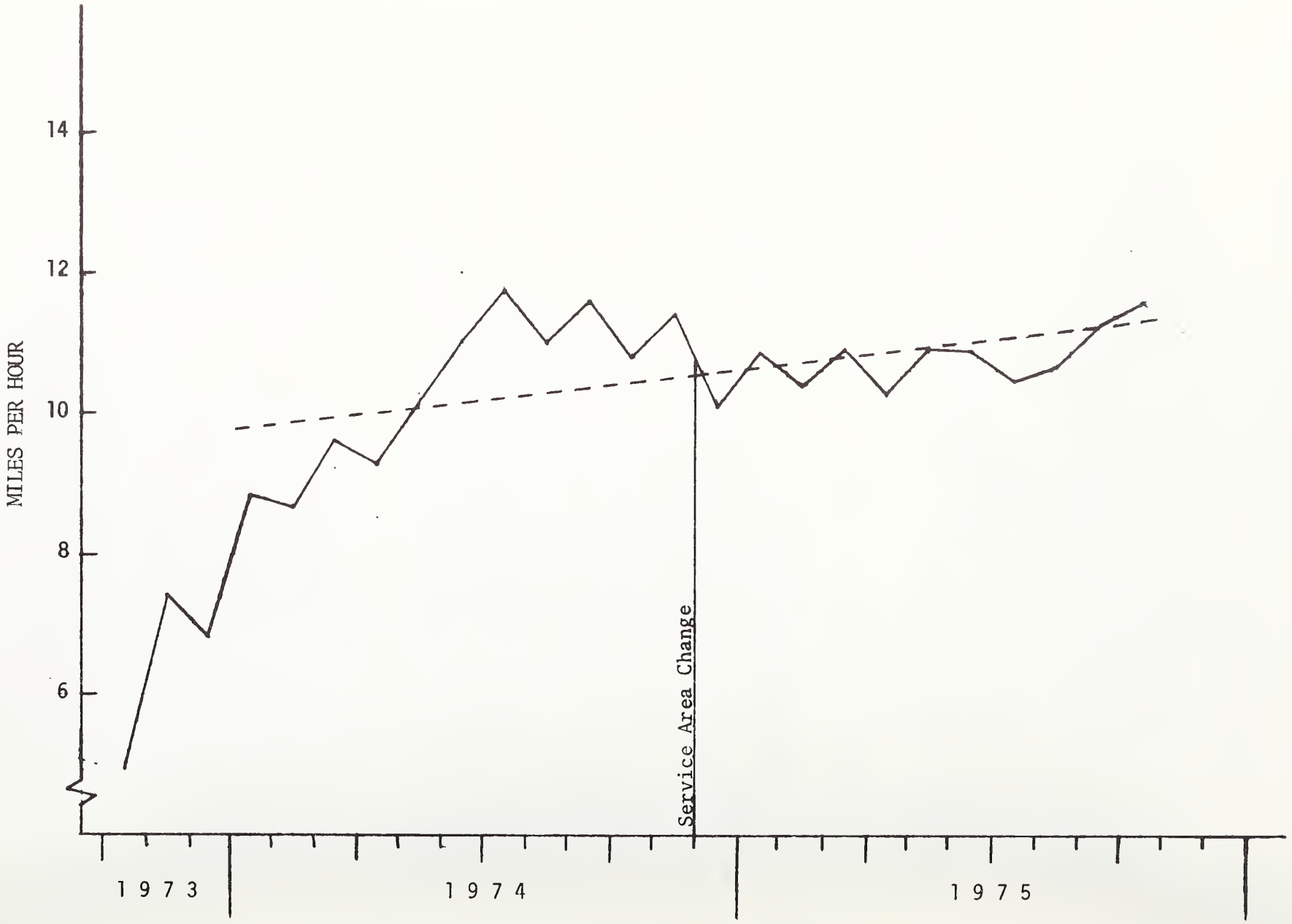


EXHIBIT 7.5

PASSENGERS PER VEHICLE-HOUR (REGULAR SERVICE)

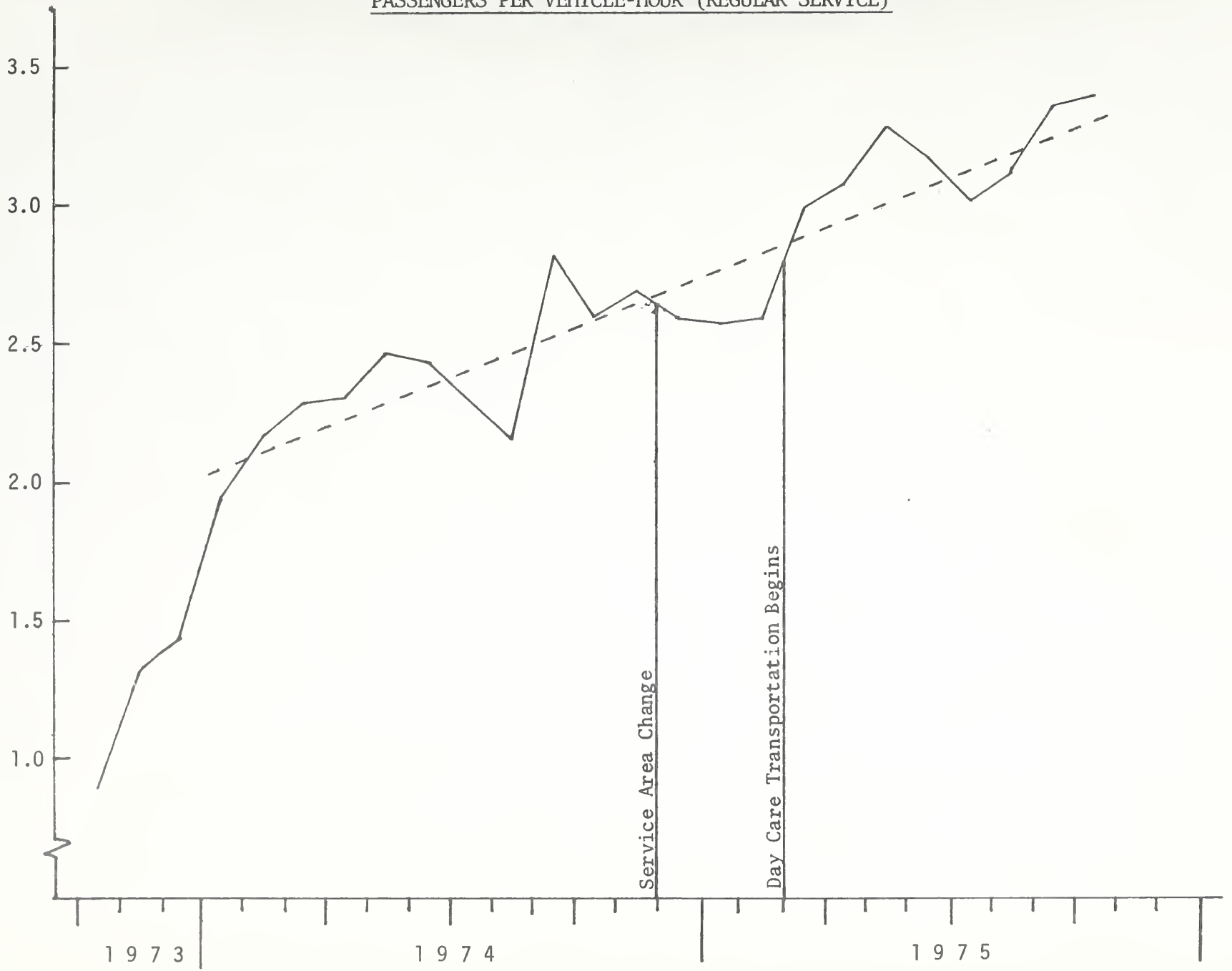
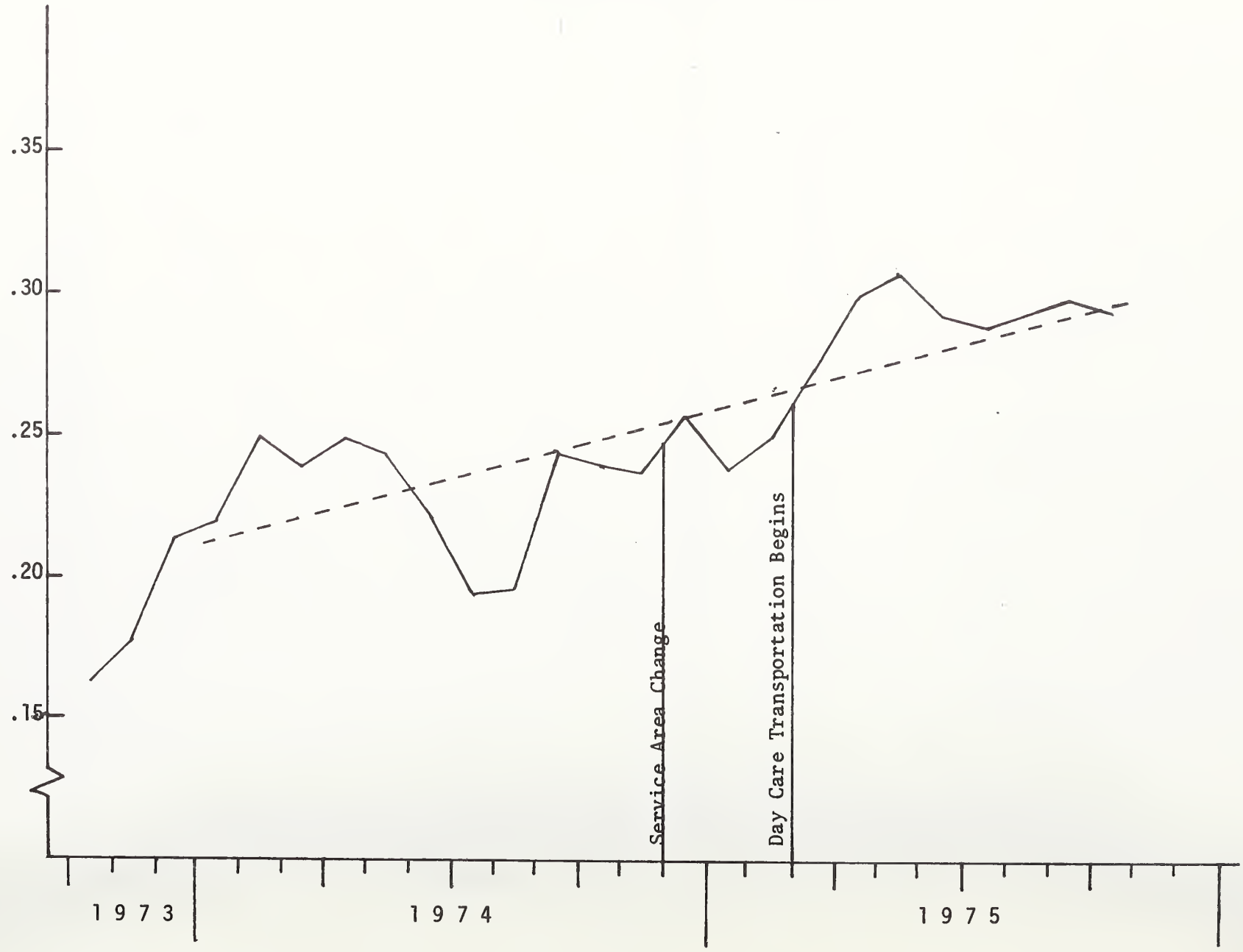


EXHIBIT 7.6

PASSENGERS PER VEHICLE-MILE (REGULAR SERVICE)



The December 1974 service area change may have had some effect on productivity, but it is difficult to detect because of the effects of increased demand and the scheduler's shifting of passenger trip requests to create more efficient vehicle tours.

Using the average trip lengths calculated in Section 6.3.2.4, productivity measures using "passenger-miles" rather than "passengers" can be estimated. (Direct trip distances are considered in these definitions rather than the distances passengers travel onboard the vehicle, which may not be the shortest path.) Vehicle productivity in terms of passenger-miles is useful for comparing systems because it eliminates variation in productivity due to different trip lengths. A system with a large service area, such as Call-A-Bus, is likely to have longer trip lengths than a system with a smaller service area.

The estimated average trip lengths of 4.1 miles in March 1974 and 4.0* miles in October 1975 result in the following estimated productivity levels for Call-A-Bus regular service:

Productivity Measure	March 1974	October 1975
Passenger-miles/vehicle-mile	0.87	1.17
Passenger-miles/vehicle-hour	9.4	13.6

Passenger-miles/vehicle-mile was above 1.0 in October 1975, indicating that Call-A-Bus service accounted for fewer vehicle-miles than if each person drove alone to his destination. It is also more efficient than conventional taxi service in Syracuse, where deadheading and cruising result in a passenger-mile per vehicle-mile rate of about 0.9.**

7.2.2 Comparison With Other Elderly and Handicapped Systems

Regular service vehicle productivity was considerably lower than that of regular fixed-route bus systems. CNY Centro's regular system vehicle productivity in fiscal year 1975 was 29.2 passengers per vehicle-hour, nearly nine times that of Call-A-Bus at its peak performance. However, Call-A-Bus productivities are comparable to other demand-responsive transportation systems for the elderly and handicapped that are or have been UMTA demonstration projects (Exhibit 7.7). Although Call-A-Bus vehicle productivity (in terms of passengers per vehicle-hour) is generally below that of the other systems, this is probably due to the much larger service area served by Call-A-Bus. Vehicle productivity is comparable to other systems with large service areas. On a passenger-mile per vehicle-hour basis, Call-A-Bus productivity exceeds any of the other systems for which data is available. This is probably because much of the Call-A-Bus ridership consists of subscription passengers, who can generally be carried more efficiently than many-to-many passengers.

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*A 4.0-mile trip length is used rather than the actual sample average of 4.5 (see Section 6.3.2.4).

**Syracuse Metropolitan Transportation Study, Transportation Needs of the Elderly and Disabled in Onondaga County (Draft Report, 12/76).

EXHIBIT 7.7

VEHICLE PRODUCTIVITY IN OTHER SYSTEMS
FOR THE ELDERLY AND HANDICAPPED

Service	Service Area	Passengers/ Vehicle-Hour	Passenger-Miles/ Vehicle-Hour	Date
Call-A-Bus (Syracuse, NY)	794 (1-day/wk. service in 95% of area)	3.4	13.6	10/75
Valley Transit District[1] (Naugatuck, Connecticut)	59 (1-day/wk. service in 75% of area)	5.9	N/A	1975
Transvan[2] (Cranston, R.I.)	28	6.1	N/A	3/74
TOTE[1] (St. Petersburg, FL)	13	6.4	N/A	9/73-11/74
Handibus[3] (Lincoln, NE)	890	2.3	13.3	1/74
Special Transportation Services[1] (Baton Rouge, LA)	88	3.0	10.8	1975
Neighborhood Elderly Transportation[1] (Cleveland, Ohio)	8	5.7	8.6	1975
Taxi Discount Demonstration[4] (Danville, IL)	15.9	4.5	11.3	1975 - 1976

Sources:

[1]Transportation Systems Center, U.S. Department of Transportation (1976)

[2]U.S. Department of Transportation, Services and Methods Demonstration Program, Annual Report (November 1975).

[3]Applied Planning and Management, Lincoln, Nebraska Experimental Demonstration Project, Final Evaluation Report (1975).

[4]Crane and Associates, Interim Evaluation Report, Danville User Side Subsidy, Demonstration Project, Phase I (April 1977).

EXHIBIT 7.8

OPERATING COSTS AND REVENUES PER VEHICLE-HOUR (REGULAR SERVICE)

7.2.3 Cost Statistics

7.2.3.1 Regular Service - The demonstration regular service costs and revenues per vehicle-hour are shown in Exhibit 7.8. The operating cost per vehicle-hour remained fairly level until February 1975, averaging $12.73 for the first 16 months of the demonstration. In February, a 35% increase in drivers' wages resulted in an increase in total cost per vehicle-hour to an average of $15.32 for the remaining nine months (about $16.40 including estimated capital costs). Costs per vehicle-mile (see Exhibit 7.9) follow a similar pattern, except for a decrease during the early project months as idle vehicle operating time was reduced (see Section 7.2.1). Revenues per vehicle-hour and per vehicle-mile also increased during this time as ridership and productivity rose, but the magnitude of the change is small compared to the variation in costs.

The regular service operating cost per passenger decreased from over $6.00 per passenger during the first four months of the demonstration to below $4.50 during the final two months as vehicle productivity rose (Exhibit 7.10). Revenue per passenger after the first month held fairly steady at around 48¢, resulting in a per-passenger subsidy of about $4.00 when the demonstration concluded.

7.2.3.2 Group Trip Service - The group trip average cost per passenger averaged around 70¢ during the demonstration (Exhibit 7.11), considerably below that of regular Call-A-Bus service. Since the sponsoring organization paid half of the total cost, the group trip per-passenger subsidy was only 35¢. Group trips tended to decrease the overall system cost per passenger. During the summer months, when group trip ridership was largest, the operating cost per passenger of both regular and group trip service was around $3.00, and the per-passenger deficit was about $2.60.

7.2.3.3 Camp Goodwill - Using the estimated Camp Goodwill ridership figures, the cost per passenger was about $5.20 in 1973, $3.30 in 1974, and $2.80 in 1975. The decreasing per-passenger cost resulted from an increase in passengers carried and a decrease in the number of buses used, from four in 1973 to three in 1975.

7.2.4 Comparison with Alternative Modes

During the demonstration, alternative modes of revenue producing public transportation available to those people who required door-to-door transportation included regular taxi service and wheelchair cab services. The comparison of Call-A-Bus with these services must be done at least on the basis of (1) user charge (2) service cost and (3) service level. Each of these three characteristics is discussed in this section to provide a perspective on Call-A-Bus from the conventional transportation service alternatives.

The user charges for each of these services were:

Call-A-Bus:	Average fare of 50¢
Taxi:	$1.50 for the first mile plus 60¢ for each additional mile
Wheelchair Cab:	$8.00 to $12.00 plus mileage and service charges

As is readily apparent, the Call-A-Bus provided the lowest user charge.

For the purpose of comparing service costs, it is only possible to compare average situations and average costs. Also, since taxi and wheelchair cab operating costs were not available, the fare charged for these services must be used as a proxy for the operating costs. Therefore, comparing the alternative services on the basis of cost must be done cautiously.

The average cost of carrying a regular Call-A-Bus passenger was about $4.50 (excluding capital costs) near the end of the demonstration. If Call-A-Bus passengers who were able to use taxis did so at an average loading of 1.2 passengers per trip (see section 6.3.2.5) the average fare for a 4-mile trip (mean Call-A-Bus trip length) would be $2.75 per passenger. The implications of this cost comparison are unclear since the taxi fare structure is based on a service that is different from that of the Call-A-Bus. The taxi fares are based on a demand that predominantly consists of short CBD trips and also trips to and from a few major activity centers such as airports. If taxis were to carry the more dispersed Call-A-Bus trips the fare structure would presumably have to rise in order to sufficiently cover costs. This suggests that the equivalent cost of carrying Call-A-Bus passengers in taxis may actually be greater than reported above. Furthermore, the difference in wages payed to the drivers must be considered as well as tips payed to taxi drivers.

Comparing the Call-A-Bus costs with fares charged for wheelchair cab services shows that Call-A-Bus service is a less costly alternative. Wheelchair cabs operate at a fare per passenger that is at least double, and sometimes triple that of the analogous Call-A-Bus operating costs. Although only about 3% of the Call-A-Bus ridership during the demonstration was confined to wheelchairs, Call-A-Bus shows that the cost of providing wheelchair passenger transportation can be greatly reduced when it is combined with other services.

Service level characteristics available on Call-A-Bus were different than those of the taxis and the wheelchair cabs. In fact, Call-A-Bus combines characteristics of these two modes with some characteristics of regular bus service to provide a service that could accommodate a wide range of transportation needs. The Call-A-Bus provided low fares, special assistance to the infirm and blind

and wheelchair service. The special service that the Call-A-Bus provided to the target group made the Call-A-Bus a very practical alternative, if not the only mode, for the target group.

The comparisons presented in this section should not be considered as an alternatives analysis since adequate research of the alternatives available was not part of the Call-A-Bus demonstration. Hopefully this comparison provides an additional perspective from which to veiw the Call-A-Bus service.

EXHIBIT 7.9

OPERATING COSTS AND REVENUES PER VEHICLE-MILE (REGULAR SERVICE)

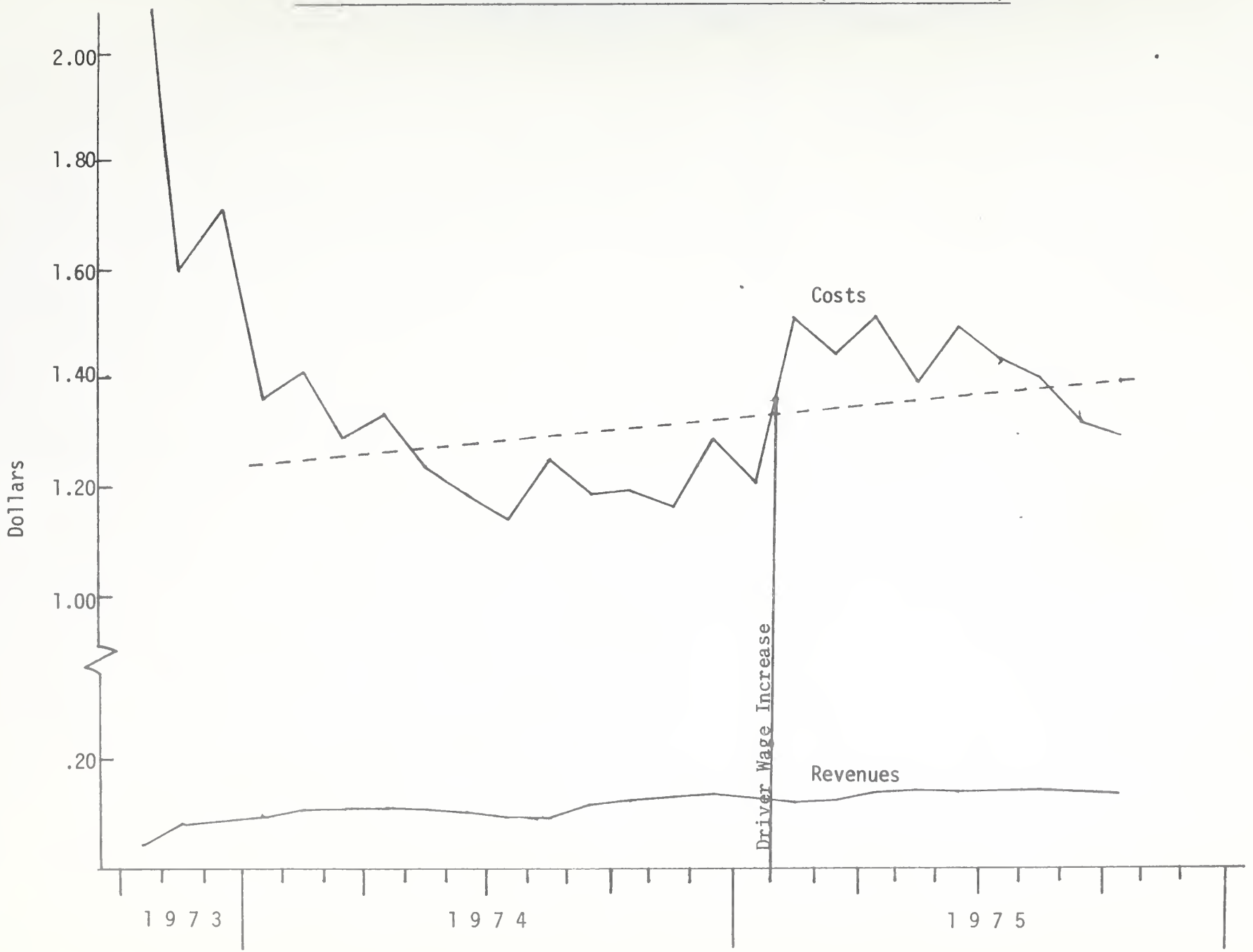


EXHIBIT 7.10

OPERATING COSTS AND REVENUES PER PASSENGER

(REGULAR SERVICE)

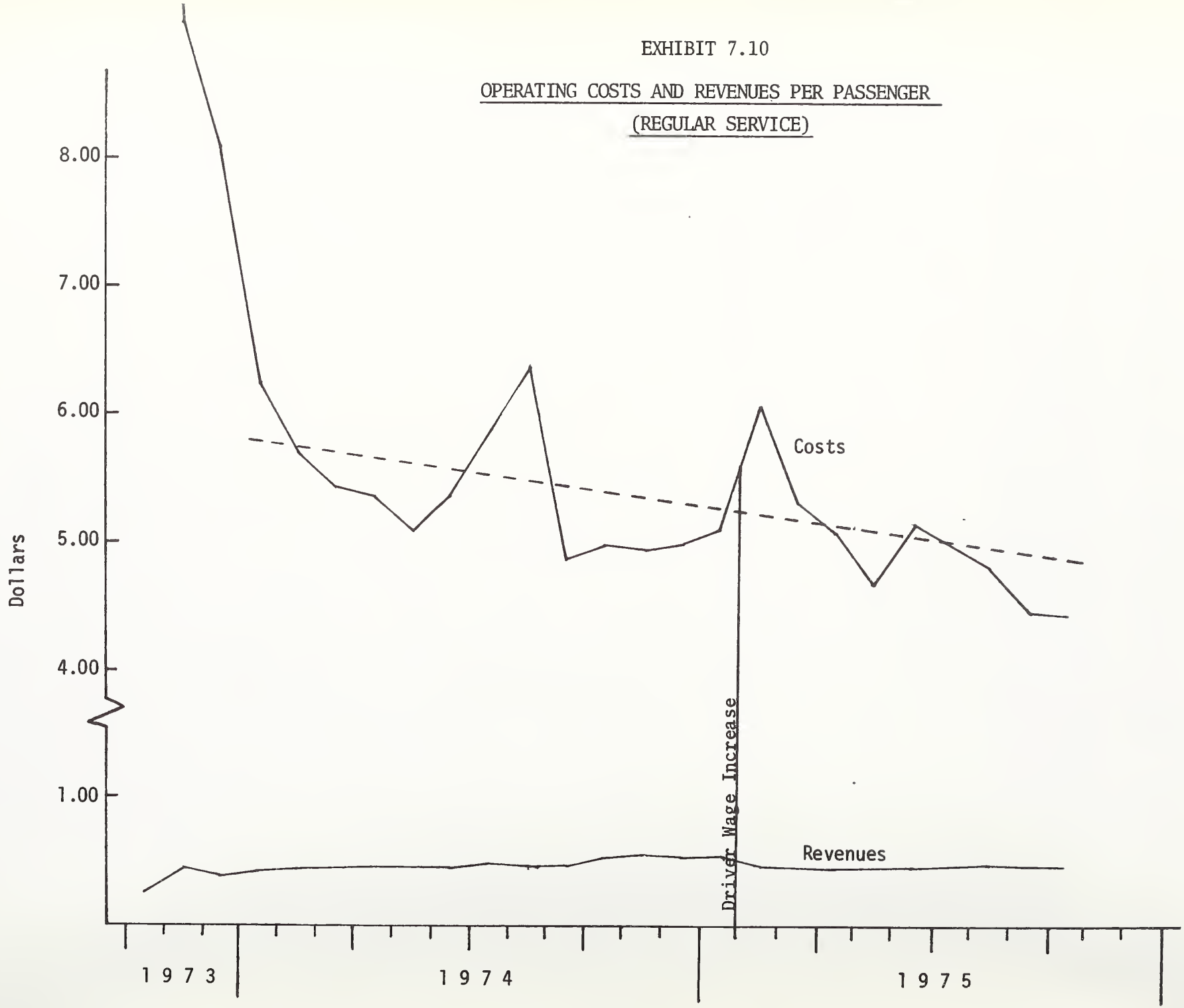
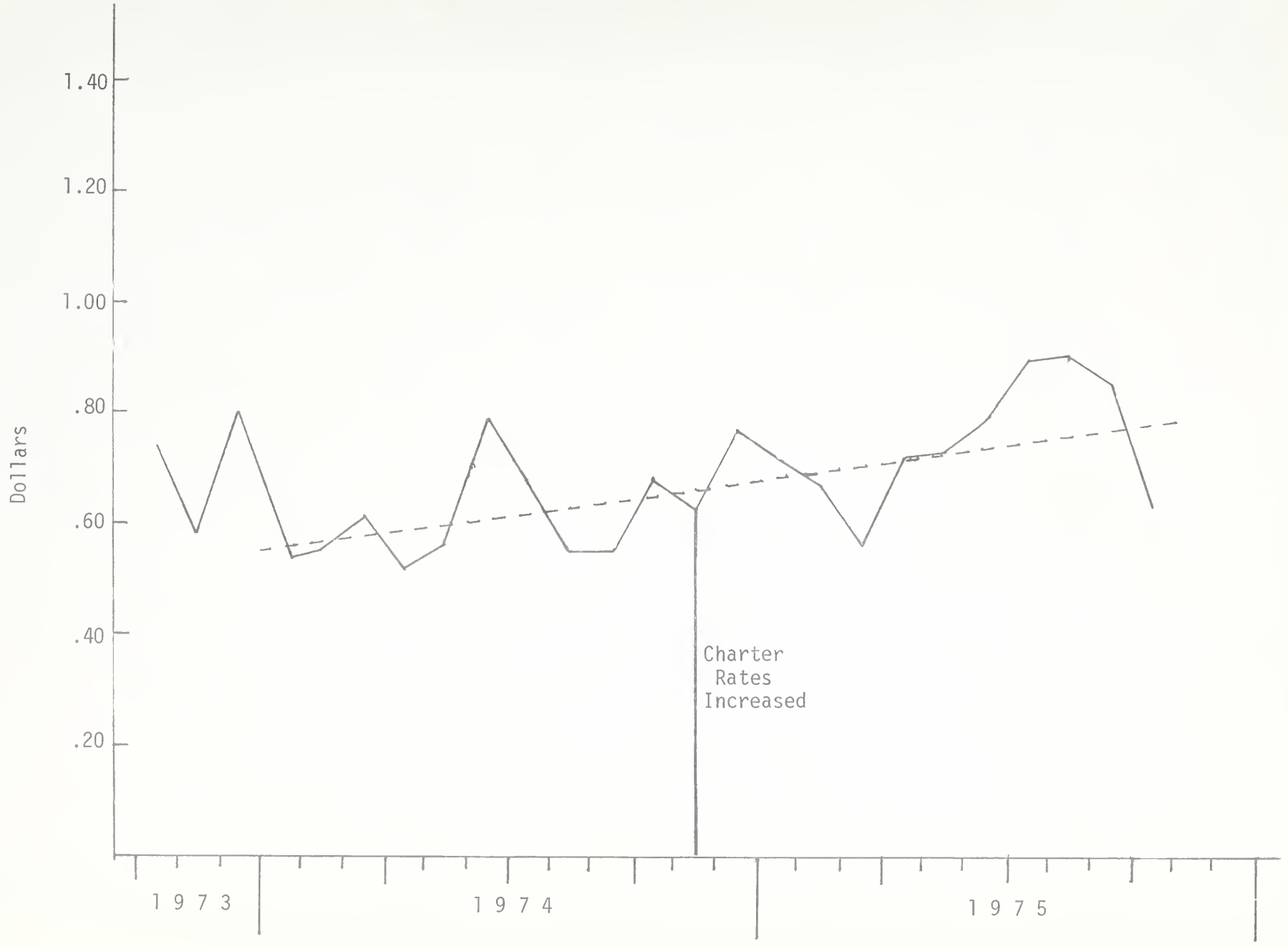


EXHIBIT 7.11

OPERATING COSTS PER PASSENGER (GROUP TRIP SERVICE)*



*Revenues = 1/2(Costs)

Wheelchair cabs operate at a cost per passenger that is double that of regular Call-A-Bus service, despite much lower hourly operating costs. Although only about 3% of the Call-A-Bus ridership is confined to wheelchairs, Call-A-Bus shows that the cost of providing wheelchair passenger transportation can be greatly reduced when it is combined with other services.

Although much less expensive to provide than wheelchair cab service, Call-A-Bus service costs more per passenger than taxi service. However, many Call-A-Bus users would have difficulty using regular taxi service. Aside from wheelchair passengers, Call-A-Bus users include blind and mentally retarded persons. The special assistance provided by Call-A-Bus drivers may mean that Call-A-Bus was the only practical alternative for these groups.

7.3 FACTORS AFFECTING PRODUCTIVITY

As discussed in previous sections, the various Call-A-Bus services performed at varying levels of efficiency. Group trips, for example, greatly increased overall system productivity while, within regular Call-A-Bus service, the subscription services helped to increase productivity. However, neither the service area change, the decrease in operating hours, or the start of wheelchair passenger service had a noticeable effect on regular service productivity. However, it seems probable that the continued growth in vehicle productivity during 1975 could not have been sustained if the service area change had not been made.

Regular service productivity is somewhat limited by the method of dispatching used. The Call-A-Bus scheduler assigns trip requests to 20-minute slots, and his main objective is to fill as many slots as possible with geographically adjacent requests. The rigid structure of this scheduling procedure generally limits vehicle productivity to three pick-ups and/or drop-offs per hour. Higher productivity levels are due to multiple passengers making the same trip, the coordination of pick-ups and drop-offs, and subscription tours.

In September 1974, Call-A-Bus service after 10;00 P.M. was discontinued. This was a relatively small change in service, and a significant effect on productivity was not be detected in the data. However, the analysis of ridership by time of day (Section 6.3.2.2) suggests that further manipulation of service hours could substantially affect productivity. Specifically, only 6.7% of the weekday ridership in October 1975 occurred after 5:00 P.M., but approximately 13 vehicle-hours (22% of the daily total) occurred after 5:00 P.M. This indicates that daytime service, which includes subscription runs, operates far more efficiently than evening service. The implication is that productivity could be significantly increased if evening service were eliminated.

A final important factor affecting Call-A-Bus productivity has been its integration with CNY Centro operations. Aside from the transit management expertise provided, CNY Centro was able to provide an extra bus and/or driver when needed for a replacement or supplement. The Call-A-Bus vehicles were also maintained by the CNY Centro maintenance staff, which succeeded in insuring reliable vehicle performance.

8. IMPACTS ON USERS AND SOCIAL SERVICE AGENCIES

8.1 IMPACTS ON USERS

8.1.1 Mobility

Forty-seven percent of those responding to the 1976 on-board survey said they could not have made their trip without Call-A-Bus. The 1974 on-board survey contained no questions concerning frequency of alternative mode use, but 53% of the respondents said they would make significantly fewer trips if Call-A-Bus did not exist. Before Call-A-Bus was introduced, these non-trippers comprised what has been called "latent demand" -- those desiring to travel but not doing so. Presumably, these persons did not have access to an automobile (65% had no automobile in the household), could not drive (1% reported driving as an alternative mode), or had difficulty using a regular bus (although 16% reported a bus as an alternative mode).

The number of induced trips varied considerably by trip purpose, many being made for social and recreational purposes. For "essential" trips, including medical and work trips, less than one-third of all trips would not have been made if Call-A-Bus were not available. However, about two-thirds of the recreational and personal business trips would not have been made without Call-A-Bus. These results indicate that Call-A-Bus served both trip types: essential trips became easier to make and other trips, that were likely to be sacrificed if Call-A-Bus was unavailable, were made possible.

Of the users responding to the mail survey, 18% said they would not have made their trips if Call-A-Bus were not available, a level significantly below that found in the on-board survey. The difference is explained by the fact that those responding to the mail survey made primarily medical trips by Call-A-Bus, which are assumed to be more essential than other trips. In addition, since the mail survey inquired about trips in the past, respondents may not have been able to remember what alternatives were available at the time, or were not aware of changes in their own travel behavior.

The mail survey of users revealed that 12% of the respondents were heavily dependent on Call-A-Bus, using the service for all or most of their local travel. The comparable figure from the 1976 on-board survey was 47%. Those who did report alternatives to Call-A-Bus usually cited a regular bus, a taxi, or being driven. Being driven or taking a regular bus is a less expensive alternative, but is presumably less convenient; travel thus became more convenient for these users. For those who were driven, Call-A-Bus made them more independent. As described earlier in this report, taxi service is substantially more expensive for the user than Call-A-Bus. Those confined to wheelchairs faced even higher taxi costs; working wheelchair-confined persons could easily spend a significant portion of their salary on commuting by wheelchair taxi. Therefore, for those who previously used taxis, Call-A-Bus provided a less expensive mode of travel.

In addition to survey results, letters written by users have been a source of information on the user impact of Call-A-Bus, as were comments written on the mail survey questionnaires. Selected comments have been included in Appendix G. Many comments attest to the fact that Call-A-Bus enhanced user mobility by providing accessible transportation at reasonable cost. Safety while traveling was also commented upon positively. Users often cited their increased independence resulting from Call-A-Bus. One especially striking case involved a woman who called Call-A-Bus only to travel around Syracuse to see what changes had occurred; she had not left her residence in over two years.

There is some indication that Call-A-Bus provides significant social contacts for its users. Fifty-three percent of those responding to the 1974 on-board survey said they developed new friendships while riding. However, this does not seem to be a relatively important function of the service, as the opportunity to make new friends was not ranked high in the attitudes toward service attributes (Section 8.2.2.1).

8.1.2 Attitudes Toward Service

8.1.2.1 Regular Passengers - In addition to the letters and comments, users expressed their attitudes toward Call-A-Bus through a survey question calling for the rating of 13 Call-A-Bus attributes. A four-measure scale of "excellent," "good," "fair" and "poor" was used.

In the 1976 on-board survey, riders gave Call-A-Bus a highly favorable rating. All but two attributes received more excellent ratings than all other ratings combined. The "opportunity to make new friends" and "travel time" were the two exceptions. The courtesy and helpfulness of the drivers received the best rating: 87% of those responding rated it excellent.

An identical question appeared on the mail survey, where results closely matched the on-board survey results. Two attributes which were rated lower on the mail survey were the availability of Call-A-Bus and the convenience of scheduling return trips. Of those responding, 29% and 25% respectively rated these attributes fair or poor, contrasted to the responses of 12% and 8% from the on-board survey. This result implies that infrequent Call-A-Bus users would use the service more often if it were more conveniently available. Many persons apparently feel that it is inconvenient to use Call-A-Bus because of its limited coverage outside Syracuse, the long advance calling requirement, the possibility of having to travel at other than the time desired, and the difficulty of planning the return trip in advance. Other service attributes--such as reliability, travel time, ride comfort, fare, and trip requesting confirmation procedures--were rarely perceived as problems.

8.1.2.2 Wheelchair Passengers - Of the eleven people responding to the wheelchair passenger survey conducted in August 1975, nine rated the service excellent and two rated it fair. Several passengers also cited significant cost savings as a result of Call-A-Bus. Some concern, however, was expressed about the "curb service only" policy.

Various architectural barriers, such as steps and narrow doorways, make it difficult or impossible for a wheelchair-confined person to get to or from the curb without assistance. Thus, the role of Call-A-Bus in providing transportation for the handicapped is sometimes limited by physical factors outside the transit system.

8.2 SOCIAL SERVICE AGENCIES

8.2.1 Impacts on Transportation Supply

The relative changes in transportation supply can be seen in Exhibit 8.1:

EXHIBIT 8.1

Relative Transportation Supply

	Agencies With Fleets	Agencies Purchasing	Call-A-Bus
Vehicles	99	--	4+
Trips/Month	35,000	4,850	7,200
Total Costs/Year	$565,080	$588,000	$208,294

Although small (9% of all trips), the market served by Call-A-Bus was probably one not previously served by agency transportation; only 4% of all users (7% of the users responding to the 1976 on-board survey) used Call-A-Bus to travel to social service agency programs. When the service began, relatively more users (15% from the 1974 on-board survey) used Call-A-Bus for travel to agency programs. Social service agencies confirmed the small degree of substitution by Call-A-Bus for agency transportation. Of the 18 social service agencies surveyed by CNYRTA student interns in 1975, only two were able to cite actual reductions in transportation expenditures due to Call-A-Bus. The local American Cancer Society chapter reduced transportation expenses from $1,843 in 1974 to $1,243 in 1975 by having patients use Call-A-Bus rather than taxis for treatment appointments. The Lighthouse Association for the Blind cited a reduction in annual recreational transportation expenditures from $2,000 to $700 by substituting Call-A-Bus for taxi trips to and from the Salvation Army Golden Age Club.

Although other agencies were unable (or unwilling) to cite actual reductions in transportation expenditures, most social service agencies have directly benefited from the Call-A-Bus program. In several cases, such as the Consolidated Industries subscription service, regular Call-A-Bus service transported clients that would probably have been transported by the agency otherwise. In most cases, benefits were due to group trip service, in which half the cost of the trip was paid by Call-A-Bus. Seventy-three organizations

sponsored group trips during the demonstration (Section 6.3.1). Approximately $17,000 of the cost of these trips was paid by Call-A-Bus. For the small senior citizen groups which sponsored only one or two trips, the benefit was small (about $25 for each excursion sponsored). However, Plaza Nursing Home--the major sponsor of group trips--received group trip subsidies of over $3,000 during the demonstration.

In general, the provision of Call-A-Bus service appears to have added to the general supply of transportation for the elderly and handicapped rather than substituting for existing services provided by social service agencies.

8.2.2 Impacts on Agency Programs

The supplemental transportation provided by Call-A-Bus allowed social service agencies to modestly expand their activities. One major example was the daily transportation of about 15 adults to the ARC Center for rehabilitative work and employment training. Most of these people would have been unable to travel to the ARC Center otherwise. Several health care facilities and nursing homes also mentioned that visitors often arrive by Call-A-Bus. The relative number was small, however, as only 4% of users responding to the mail survey reported using Call-A-Bus for trips to agency programs. Nevertheless Call-A-Bus supported numerous agency programs by supplying transportation, including nutrition programs, senior citizen clubs and centers, a blind bowlers association, work shops and residential facilities for the elderly and disabled. Finally, the group trip service enabled agencies to secure more group transportation than they could have otherwise, and they have consequently been able to provide more group activities to their clients.

8.2.3 Attitudes Toward Call-A-Bus

Representatives of the 18 social service agencies interviewed in 1975 generally praised Call-A-Bus for providing a needed service. Several agencies cited problems with the service, which have already been discussed in earlier sections of this report. These problems included the lack of assistance provided to wheelchair-confined persons in getting to and from the bus, the long advance calling that is generally required to assure a trip reservation, and the limited service available in outlying areas. Two agencies also noted that Medicaid could not be used to pay for non-wheelchair Call-A-Bus trips; hence, clients of social service agencies whose transportation was paid by Medicaid funds had no incentive to use Call-A-Bus.

9. FINDINGS

9.1 SUMMARY OF FINDINGS

9.1.1 Level-of-Service Changes

Finding: Call-A-Bus service provided the elderly and handicapped populations of Onondaga County with an inexpensive means of mobility, although it was more costly than local fixed-route bus fares.

Regular Call-A-Bus service fares ranged from 50¢ to $1.00, but the majority of users paid only 50¢. This was higher than the regular CNY Centro fixed-route bus fare of 35¢, and considerably greater than the 15¢ fare available to the elderly and handicapped during off-peak periods. Call-A-Bus fares were set higher to encourage persons who could use the regular fixed-route system to do so.

For those unable to use regular buses or secure private transportation, either through access to an automobile or affiliation with a social service organization providing transportation, Call-A-Bus supplied the only low-cost transportation available. Door-to-door service was offered for a fare that was about one-sixth of the cost of a taxi. For persons confined to wheelchairs who would require a special wheelchair taxi, the savings were even greater, since wheelchair taxi service in Syracuse costs $8.00 or more per one-way trip. However, wheelchair taxis usually provide services that Call-A-Bus would not provide, such as escorting passengers to and from the vehicle.

Finding: The service area cutback occurring midway through the demonstration did not have a significantly adverse effect on the level-of-service provided.

In December 1974, approximately halfway through the demonstration, daily Call-A-Bus service was restricted to residents of a 44 square-mile area that included Syracuse and adjacent suburbs. The remainder of the 794 square-mile area was divided into five sectors and each was served on one weekday. This change enabled the system to expand its capacity by concentrating trips within a smaller area. Furthermore, 70% of the County's elderly population resided within the new daily service area and were consequently not affected by the change. Both before and after the change, the overwhelming majority of Call-A-Bus trips were made by Syracuse residents; a mail survey of users revealed a relatively minor level of dissatisfaction with the service area restrictions.

Finding: The two-day minimum advance notice for service requests was felt to be inconvenient by many users, but was necessary for efficient operations.

Users of regular Call-A-Bus service were required to request service at least two days in advance of their trip, and often had to make the request nearly one week in advance to insure a reservation. This was inconvenient to some, and users and social service agency

representatives cited this drawback in surveys. However, medical appointments--which could presumably be scheduled in advance--were the destinations of nearly one-third of regular service trips. Other trips with high priority, such as for work or educational training, could also usually be scheduled in advance. Many of these recurred regularly every day or every week. The Call-A-Bus scheduler reserved regular time slots for such trips so that users did not have to request service each time they made the trip.

Although inconvenient for some users, the Call-A-Bus staff found the two-day advance notice requirement necessary. The advance notice allowed the scheduler time to arrange more efficient vehicle tours, which was done primarily by shifting some service requests by 10 to 20 minutes in order to coordinate trips on a particular tour. The two-day advance notice requirement allowed the scheduler to make these changes once all the trip requests were received and the telephone operators to notify users of the changes.

Finding: By supplying reduced-rate charter service, the Call-A-Bus group trip service provided organizations with an inexpensive method of transporting large groups.

The Call-A-Bus group trip service further increased the supply of transportation to elderly and handicapped users. Group trip service allowed groups to use a bus for group transportation at half the normal charter rate. A typical group excursion would cost the organization about $25 instead of $50. For a group of 40 to 50 people, this resulted in a relatively inexpensive means of travel. Nursing homes, social service agencies, and senior citizen groups which could coordinate group tripmaking were able to benefit from this service.

9.1.2 Market Penetration and Ridership

Finding: Regular Call-A-Bus service ridership grew rapidly during the early months of the demonstration, and approached the system's capacity. Further ridership gains resulted primarily from the addition of productive subscription tours.

With very little advertising, regular Call-A-Bus service ridership grew rapidly in the early months and subsequently operated near capacity during the day. Ridership continued to grow during the entire demonstration, mainly due to the addition of highly productive subscription tours. New demand was accommodated by use of an extra bus. During most of 1975, two daily subscription services accounted for about one-third of the total ridership. In the final month of the demonstration, 5,205 passengers were carried, the highest level recorded during the entire demonstration period.

Finding: Group trip service was used by a variety of organizations, although several of the larger nursing homes were the dominant users of the service. This demand was concentrated in the summer months.

Call-A-Bus carried between 3,000 and 4,000 group trip passengers per month during the summer months, when the weather favored social and recreational activities. Ridership dropped by more than 50%

during the fall and winter months and recovered in the spring. The group trip service was utilized by numerous small senior citizen and church groups, but most trips were sponsored by several large nursing homes. Altogether, over 70 organizations sponsored group trips.

Finding: Call-A-Bus ridership was small compared to elderly and handicapped usage of other modes.

The total ridership of both the regular and group Call-A-Bus services reached as high as 7,800 passengers per month during the demonstration. However, approximately 135,000 monthly passenger-trips on regular CNY Centro routes were made by elderly persons over age 65[1] and local social service agencies transported about 40,000 elderly and disabled passengers each month.[2] Finally, Syracuse taxi operators reported that approximately 36,000 elderly persons use taxis every month.[2] Thus, total Call-A-Bus ridership was less than 4% of that carried by these other modes.

Finding: Call-A-Bus captured about 7.4% of the target population.

Although an estimated 90,000 persons in Onondaga County are over age 55 or handicapped, the Call-A-Bus target population -- non-driving but mobile elderly and handicapped who cannot use or are without access to public transportation -- includes only about 27,000 persons. During the demonstration, approximately 2,000 persons used regular Call-A-Bus service, representing a market penetration of around 7.4%.

The degree of market penetration was correlated with age; the greatest market penetration occurred in the oldest age groups. For example, persons over age 80 made up only about 8% of the total eligible population, but represented 25% of the users of Call-A-Bus. This presumably occurred because the oldest users were least likely to be able to use other transportation modes.

9.1.3 Productivity and Economics

Finding: Revenues accounted for only 12% of the total operating costs, resulting in an average annual net service cost of $208,000.

Although the average cost per passenger steadily decreased during the demonstration, total revenues covered less than 12% of operating costs, excluding the cost of the four small buses delivered in February 1975. The average regular service per-passenger cost, including estimated capital costs not included in the Call-A-Bus accounting records, remained above $4.50 during the entire demonstration.

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[1] Wilbur Smith and Associates, Syracuse Transit Improvement Study (January 1973).

[2] Syracuse Metropolitan Transportation Study, op.cit.

Finding: The group trip service greatly improved the overall productivity of the Call-A-Bus system and lowered average passenger costs.

The average cost of group trip service was about 70¢ per passenger, due to high load factors and since operating costs occurred only when a trip was made. Furthermore, revenue accounted for 50% of the costs, assuming that the CNY Centro charter rates accurately reflect operating costs. Over the entire demonstration period, the number of group trip passengers was about 59% of the number of regular service passengers, while the group trip service net cost was only 4% of the regular service's net cost.

Subscription services were the most productive component of the regular Call-A-Bus service. Like the group trip service, their relatively high load factors lowered the overall cost per passenger.

Finding: Regular Call-A-Bus service was less expensive to provide than the wheelchair taxi service available but was more expensive than regular taxi service (given the current fare structure) and fixed route bus service.

Combining the service characteristics of wheelchair cab service, regular taxi service and conventional bus service, the Call-A-Bus was able to operate an average cost per passenger of $4.50 which is between $2.75 per passenger for a similar average taxi trip and $10 - $15 per passenger for wheelchair cab service.

Call-A-Bus was also found to have lower vehicle productivities (passenger per vehicle-hour) than several other specialized demand-responsive systems for the elderly and handicapped in other cities. However, this can be attributed to the larger Call-A-Bus service area which resulted in relatively long trip lengths. Passenger-mile productivity was comparable than other systems.

9.1.4 Impact on the Elderly and Handicapped

Finding: A small number of users were almost completely dependent upon Call-A-Bus for mobility. For most users, Call-A-Bus made high priority trips more convenient or less expensive, and provided a means of making other trips that would not have been made if Call-A-Bus were not available. By offering an alternative to being driven, Call-A-Bus made some users (17%) more independent.

Approximately 12% of all Call-A-Bus users, or about 250 persons, used Call-A-Bus for all or most of their local travel; other users depended mainly upon regular buses or being driven. However, nearly one-half of the Call-A-Bus trip demand was assumed to come from formerly latent demand -- trips that would not have been made if Call-A-Bus had not been operating. Much of this latent demand con-

sisted of social, recreational, and personal business trips. Higher priority trips -- such as for medical appointments and work -- were more likely to be made by other modes, which were reported to include taxis, being driven or regular buses, in that order of usage. Thus, Call-A-Bus made high-priority trips more convenient or less costly for its users, and also provided a means for making other trips that would not have been made otherwise.

Finding: User attitudes toward Call-A-Bus were overwhelmingly positive. Criticisms generally concerned the limited quantity of services provided rather than the service concept or the way it was being supplied.

Call-A-Bus users were generally pleased with all aspects of the service. Numerous complimentary letters have been received by the Call-A-Bus staff, and most users reacted positively to attitudinal questioning on surveys. Three problems were mentioned occasionally by users and social service agency representatives. These included the long advance calling required, the limited service in outlying areas, and the "curb service only" policy when carrying wheelchair passengers. All three of these problems were largely a result of the effort to serve a demand that exceeded the capacity of the system. In addition, the wheelchair assistance policy was adopted in order to minimize conflicts with private wheelchair taxis.

9.1.5 Impact on Social Service Agencies

Finding: Local social service agencies provide substantially more transportation service to the elderly and handicapped than Call-A-Bus. The additional services offered by Call-A-Bus had a relatively small impact on the programs and budgets of these agencies, and few cost savings were realized.

Many social service agencies provide transportation services to the elderly and handicapped, either with their own vehicles or with outside transportation such as volunteer drivers or taxis. The magnitude of this effort greatly exceeded that of Call-A-Bus: 99 agency-provided vehicles carried 35,000 passengers, compared to approximately 7,000 passengers on four Call-A-Bus vehicles with occasional use of a larger CNY Centro vehicle for group trips. In several cases, agencies reported that they were able to reduce their expenditures as a result of Call-A-Bus. In general, however, Call-A-Bus service supplemented the transportation already being provided by these agencies. The group trip service permitted agencies and organizations to provide more transportation to their clients than they could have otherwise. A few nursing homes made extensive use of the group trip service, sponsoring several trips per month. Thus, the overall impact of Call-A-Bus was in providing additional transportation service rather than substituting for existing services.

Finding: Agencies were generally supportive of Call-A-Bus, and supplied information on the service to their members and clients.

Interviews with social service agency representatives revealed that most supported the Call-A-Bus program and judged it favorably. Since most social service agencies provided their own transportation

services, relatively few persons used Call-A-Bus to travel to agency programs. However, the agencies were also important distributors of information for the service, as many users reported receiving their first contact with Call-A-Bus through referral by a social service agency.

9.1.6 The Role of CNY Centro and CNYRTA

Finding: CNY Centro was committed to the Call-A-Bus demonstration, and the project proceeded without major problems. CNY Centro's expertise in transit operations helped assure its smooth functioning.

The Call-A-Bus system benefited from being managed by an experienced transit operator. Such benefits included the availability of additional buses and drivers when required to carry extra demand, scheduling and dispatching experience, and established maintenance procedures that assured proper vehicle performance. CNYRTA also recognized the need for direct involvement of the agencies which work with the elderly and handicapped populations; the Project Advisory Committee met this need by providing policy suggestions.

Finding: Although Call-A-Bus unit costs greatly exceeded those of the local fixed-route system, CNY Centro continued to supply Call-A-Bus service following the demonstration period.

Call-A-Bus carried less than 1% of CNY Centro's total ridership, but the average annual Call-A-Bus net operating cost of $216,000 represented about 4% of CNY Centro's net operating cost. However, CNY Centro recognized its obligation to meet the needs of the population it serves, and continued Call-A-Bus service after the conclusion of the demonstration.

Finding: Call-A-Bus demonstrated the ability of an established transit operator to successfully implement a special service for the elderly and handicapped.

Theoretically, the operation of a system like Call-A-Bus can be fairly easily incorporated into a major transit system. Most of the demand occurs during the midday off-peak period, when transit operators typically have excess buses and drivers available; this can reduce the marginal cost of the service. Although small buses or vans are generally desirable for demand-responsive service, service can also be provided by large coaches, which were used for Call-A-Bus during the first 17 months of the service. Existing operators have most of the skills necessary to offer such a service, except for scheduling and dispatching in a demand-responsive mode. Nevertheless, not all attempts to supply these special transit services by existing public transit organizations are successful in the long run for a variety of reasons. Therefore, the success of CNYRTA in this effort is a significant achievement.

9.2 TRANSFERABILITY

The Call-A-Bus demonstration is an example of the technique used by one transit operator to supply transit service to the elderly and handicapped. Many transit systems are presently contemplating plans to modify their regular systems so they can be used by the elderly and handicapped. Call-A-Bus represented the alternative approach of providing a special system for these groups. In other areas, this concept has been criticized because it segregates these groups from the general population; however, this criticism did not surface as an issue in Syracuse. Instead, the evidence suggests that Call-A-Bus users were overwhelmingly satisfied with the service, and the perceived problems tended to relate to the limited availability of the service rather than its concept.

Syracuse has no unique demographic or geographic features which affect the transferability of the service concepts: It is a rather typical middle-sized American city. Furthermore, no significant events occurred during the demonstration which influenced its results or affected their transferability. However, Call-A-Bus was operated by an established transit operator with an advisory committee composed of local social service agencies, which proved to be an effective management system.

The scheduling and dispatching techniques used in Syracuse could be used in other systems where advance-notice requests are required. However, larger cities would need more buses than were used in Syracuse to provide regionwide service for the elderly and handicapped. Manual dispatching becomes increasingly more cumbersome and time-consuming in other systems, unless the service area is divided into zones and passengers are required to transfer when making interzonal trips. A computerized scheduling and dispatching system might therefore be more cost-effective and provide higher service levels in a many-to-many system exceeding eight or ten vehicles.

Another aspect of the demonstration that may affect the transferability of findings was the unusually large service area in which Call-A-Bus operated. Although there are several freeways leading to the downtown area which expedite vehicle operating speed, the relatively long Call-A-Bus trip lengths tended to limit average vehicle productivity to under 3.5 passengers per vehicle-hour. In a smaller service area, higher vehicle productivity and therefore lower costs per passenger could be expected. However, a similar system in a metropolitan area larger than Syracuse would probably face higher unit costs, and would be more difficult to schedule and dispatch. Thus, the type of system demonstrated in Syracuse is probably most applicable to cities of the same size or smaller.

9.3 EPILOGUE

The Call-A-Bus program has been judged successful by CNYRTA; hence, the program has continued since the demonstration's conclusion in October 1975. The main change which has occurred is that additional buses are no longer used during periods of high demand. Also, Call-A-Bus no longer pays half the cost of group trips; such trips are now considered as regular charters. Consequently, the supply of service in terms of regular service vehicle-hours has remained fairly constant, comprised of regularly-scheduled driver runs. Ridership has also remained fairly uniform at an average of 4,200 passengers per month, slightly lower than during the busiest months of the demonstration. Wheelchair ridership has fluctuated between 100 and 250 passengers each month. Vehicle productivity has remained at around 3.2 passengers per vehicle-hour, resulting in an average cost per passenger of slightly over $5.00. During 1976, operating expenses (excluding administration, insurance, and capital costs) totaled $176,000. Revenues of about $23,000 resulted in a net service cost of $153,000.

The following table shows the Call-A-Bus operating statistics for 1976.

EXHIBIT 9.1

Average Operating Characteristics
January 1976 through December 1976

	12 Month Average
No. Passengers	4,174
Revenue	$ 1,952.00
No. Vehicle Miles	13,340
No. Vehicle Hours	1,336
No. Wheelchair Passengers	240
Total Monthly Cost	$14,874.00
Average Cost/Vehicle Hour	$ 11.13
Cost/Mile (Average for Quarter)	$ 1.12
Average Cost/Passenger	$ 3.56
Average Revenue/Passenger	$ .47
Net Cost/Passenger	$ 3.09
Passengers/Vehicle Hour	3.12
Passengers/Vehicle Mile	.31
Passengers/Trip	3.16
Vehicle Miles/Vehicle Hours	9.98

In 1977 the demand for Call-A-Bus service has sustained. All requests for Call-A-Bus service, in fact, cannot be met with the system at its current funding level. The CNYRTA expects to continue to expand and improve this program in order to provide one of the basic services which helps to eliminate feelings of isolation and uselessness among the elderly and disabled.

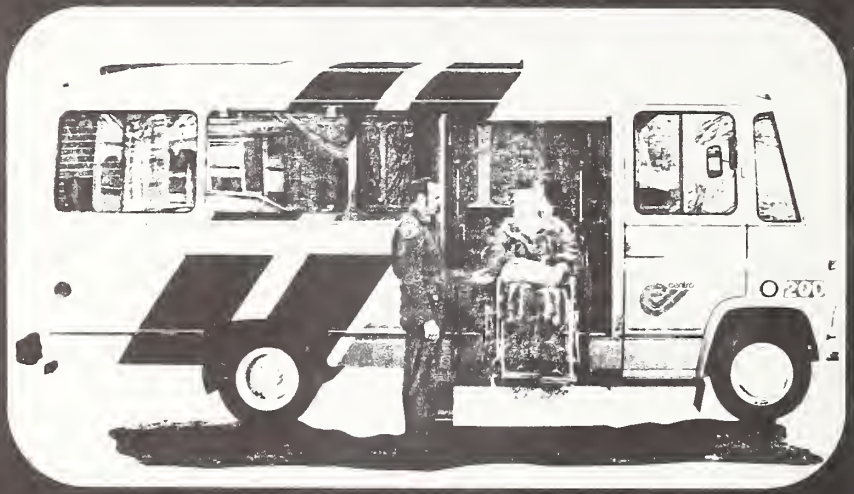
APPENDICES

A P P E N D I X A

CALL-A-BUS PROMOTIONAL MATERIAL

Contents: Call-A-Bus brochure
Call-A-Bus advertisement

If you can't use the regular bus... CALL-A-BUS. 471-5555



All the Answers to your Questions about Centro's Special Transit Services for the Elderly and Disabled!

What is CALL-A-BUS?

CALL-A-BUS is door-to-door bus service for elderly and disabled residents of Syracuse and Onondaga County who find it difficult or impossible to use regular transit service.

Are the CALL-A-BUS vehicles specially-equipped?

Right now CALL-A-BUS uses regular transit buses with a "kneeling" device to lower the front step. Also, four new minibuses with wheelchair lifts and other devices to accomodate people with special problems are available.

How do I know if I am eligible to use CALL-A-BUS?

If you are over 55 or if you have a physical or mental disability which effectively prevents you from using regular bus service, you are eligible to use CALL-A-BUS.

How do I get CALL-A-BUS service?

By phoning 471-5555 at least two days in advance and making a reservation. Be ready to tell the telephone worker where you will be leaving from, where you are going, what time you want to leave or what time you need to arrive. Please call before 5:00 P.M. two days before you want to travel. Example: If you want to use CALL-A-BUS on Thursday, call before 5 P.M. on Tuesday.

How do I pay the fare?

Please pay the exact fare when you enter the bus for each trip. When you make your trip reservation, the operator will tell you what the fare will be.

What does the service cost?

For trips in and near Syracuse, the one-way fare is 50¢; for service into the further suburbs, the one-way fare is 60¢; and for a trip to or from the outer reaches of the county, the fare is 75¢, 85¢, or $1.00.

Why does CALL-A-BUS cost more than regular service?

Because it offers much better and more personal service, and because we want you to use the regular bus service if possible.

What kinds of trips can I use CALL-A-BUS for?

The CALL-A-BUS priority trips are as follows:

1. Medical
2. Employment
3. Educational training
4. Personal business (legal, housing, banking, etc.)
5. Shopping
6. Recreation and personal visits

When is CALL-A-BUS service available?

There are two services available:

A. Syracuse: Weekdays from 6:00 a.m. to 10:00 p.m.
Saturdays from 10:00 a.m. to 4:00 p.m.
Sundays from 8:00 a.m. to 4:00 p.m.

B. Onondaga County: CALL-A-BUS service is available outside the city of Syracuse on a rotation basis:

Monday: Mattydale/North Syracuse
Tuesday: Dewitt/Fayetteville/Manlius/Minoa areas
Wednesday: Camillus/Jordan/Elbridge
Thursday: Baldwinsville/Liverpool/Radisson
Friday: Area south of Onondaga Hill
(Skaneateles/Marcellus)

CALL-A-BUS can provide group trips for social and recreational opportunities anywhere in Onondaga County. Please call 471-5555 for more information.

CALL-A-BUS service is made possible by a grant from the Urban Mass Transportation Administration and the New York State Department of Transportation.

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If you have any comments or suggestions about the service, please write to: CALL-A-BUS
614 South Salina Street,Syracuse, New York 13202

SPECIAL SERVICES for SPECIAL NEEDS

Two ways Centro makes it easier for Senior Citizens and Handicapped People to get around.

1. REDUCED FARES ON REGULAR BUS SERVICE

15¢ a Ride

Monday through Friday:
10 a.m. to 4 p.m., and after 6:30 p.m.
Saturday, Sunday and Holidays:
All Day

GENERAL INFORMATION

424-1234

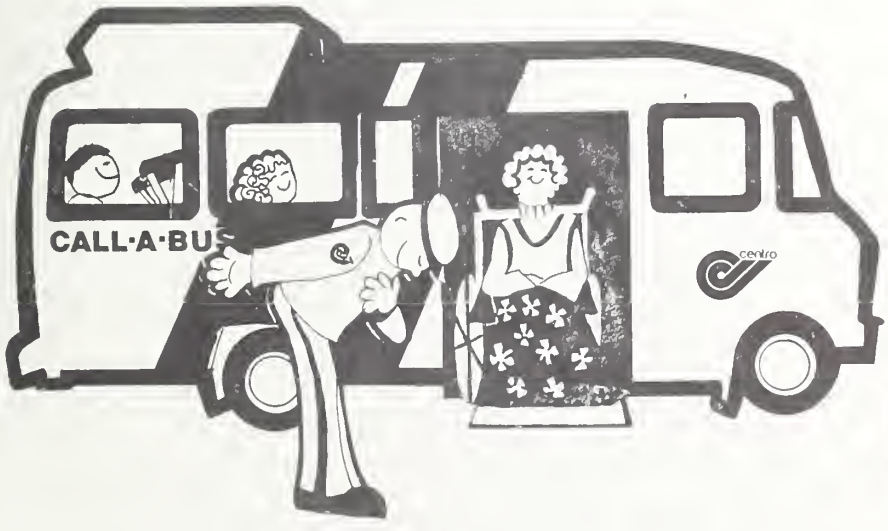
2. CALL-A-BUS

Door-to-Door Service
(and Special Wheelchair Service)

If you can't use regularly scheduled buses: Call-A-Bus 48 hours in advance.

CALL-A-BUS INFORMATION

471-5555



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A P P E N D I X B

CALL-A-BUS FORMS AND INSTRUCTIONS

Contents:

Rules and Guidelines
Request Sheet
Driver's Trip Sheet
Daily Summary Sheet
Accounting Form

FEBRUARY 1976

CALL-A-BUS
RULES AND GUIDELINES

1. Eligibility

Call-A-Bus service is available to the elderly and disabled individual only, who are unable to use regular bus service.

Elderly means an individual 55 years of age or older.

Disabled means any person of any age who has a physical or mental disability which effectively prevents them from using regular bus service.

2. Wheelchair Service

Call-A-Bus will provide curb service to disabled individuals confined to a wheelchair.

Call-A-Bus drivers are not permitted to assist wheelchair passengers to or from the door of either their pick-up point or destination point.

Persons confined to wheelchairs who wish to use Call-A-Bus and are in need of assistance to or from the door of either their pick-up or their destination should attempt to make arrangements with either a friend, relative or neighbor to provide this assistance. If the individual is unable to find assistance Call-A-Bus will attempt to make arrangements for this assistance through various social service agencies in the community.

3. Requesting Call-A-Bus Service - 471-5555

Individuals who wish to use Call-A-Bus should call for a reservation a minimum of 48 hours (two days) before they desire to be picked-up. Due to the increase in demand for Call-A-Bus, it is recommended that individuals call one week in advance for a reservation, if possible. However, individuals should not call more than one week in advance.

The telephone number for Call-A-Bus is still 471-5555. Again, due to the increase in demand for Call-A-Bus service, telephone lines may occasionally be busy. Please be patient and call again. Telephone operators are on duty 8:15 a.m. to 5:00 p.m. Monday through Friday.

4. Driver Assistance for Individuals Not Confined to Wheelchairs

Call-A-Bus drivers are permitted to assist passengers to or from the door of either their pick-up point or their final destination point if the individual needs such assistance and is not confined to a wheelchair. For example, the driver may assist a blind individual from the door of their home into the bus, and from the bus to the door of their destination.

However, the drivers are not permitted to assist individuals any further than the door. For example, the drivers are not permitted to escort an individual to a particular office within an office building. If you are in need of special driver assistance, please let the telephone operators know each time you call in to request service.

5. Trip Purpose Priorities

While Call-A-Bus reservations are made on "first come - first served" basis, the following priority list has been established in regard to trip purposes:

1. Medical
2. Employment
3. Educational training
4. Personal business (legal, housing, banking, etc.)
5. Shopping
6. Recreation and personal visits

6. Cancellations

In the event that an individual who has made an appointment is unable to keep the appointment, the individual should call the Call-A-Bus office as early as possible in order that another individual will have an opportunity to be scheduled for a trip. Cancellation calls made before 8:00 a.m. or after 5:00 p.m. on weekdays or any time on weekends or holidays should be directed to 424-1234. At all other times call 471-5555.

7. Promptness

Individuals should be ready and waiting for the Call-A-Bus when it arrives. Drivers are on very tight schedules and if the individual delays the bus by not being ready when it arrives, the bus will then be late for every other individual who is scheduled to be picked-up on the same trip.

8. Fares

The fare structure will remain the same. Trips in or near Syracuse will continue to be 50¢ one-way. Trips to the outer suburbs will continue to range between 60¢ and $1.00 each way. For security purposes, the exact change will still be required.

9. Availability of Service

Call-A-Bus will continue to be available at the same times within the same service areas.

	Bus Leaves Garage	Bus Returns to Garage
Weekdays	6:00 a.m.	10:00 p.m.
Saturdays	10:00 a.m.	6:00 p.m.
Sundays	8:00 a.m.	4:00 p.m.

Onondaga County service will continue to be on a rotating basis.

Monday: Mattydale / North Syracuse

Tuesday: Dewitt / Fayetteville / Manlius / Minoa areas

Wednesday: Camillus / Jordan / Elbridge

Thursday: Baldwinsville / Liverpool / Radisson

Friday: Area South of Onondaga Hill (Skaneateles / Marcellus)

Actual availability of Call-A-Bus for a particular time of day is made on a first come - first served basis.

10. Call-A-Bus Group Trip Service

Call-A-Bus will continue to provide group trip service for groups of 15 or more senior citizens and/or disabled individuals for social or recreational opportunities anywhere in Onondaga County.

Requests for group trip service should be made to CNY Centro, Inc. at 424-1234. Group trip services should have no more than 3 or 4 predetermined pick-up points for the trip.

If possible, group trips should be planned to coincide with the following hours:

Monday - Friday: 10:00 a.m. - 4:00 p.m.; 6:30 p.m. - midnight

Saturday or Sunday: Any time

NOTE: Due to the fact that Call-A-Bus telephone operators are not on duty during weekends, those who wish to use the bus on Monday must call in for a reservation by the previous Thursday, and those who desire to use Call-A-Bus on Tuesday must call by the previous Friday.

CALL-A-BUS REQUEST SHEET

DATE REQUESTED: _____ DATE RECEIVED: _____

NAME: _____ PHONE: _____

MALE ☐ ☐ CITY

FEMALE ☐ ☐ COUNTY

ADDRESS: _____

DESTINATION: _____ PICK-UP TIME: _____ ARRIVAL TIME: _____

_____

RETURN TRIP:

ORIGIN: _____ RETURN TIME: _____

DESTINATION: _____ RECEIVED BY: _____

TRIP PURPOSE:

☐ MEDICAL ☐ SHOPPING ☐ RECREATIONAL ☐ SOCIAL ☐ OTHER
☐ PERSONAL BUSINESS ☐ EMPLOYMENT ☐ EDUCATION - TRAINING

CALL-A-BUS REQUEST SHEET CURRENTLY BEING USED

DATE REQUESTED: _____ DATE RECEIVED: _____

NAME: _____ PHONE: _____

MALE ☐ AGE _____ CITY: NO. ____ SO. ____ EAST ____ WEST ____

FEMALE ☐ NEW ☐ PREV. ☐ COUNTY: NO. ____ SO. ____ EAST ____ WEST ____

ADDRESS: _____

DESTINATION: _____ PICK-UP TIME: _____ ARRIVAL TIME: _____

_____

RETURN TRIP:

ORIGIN: _____ RETURN TIME: _____

DESTINATION: _____ RECEIVED BY: _____

TRIP PURPOSE:

☐ MEDICAL ☐ SHOPPING ☐ RECREATIONAL ☐ SOCIAL ☐ OTHER

☐ PERSONAL BUSINESS ☐ EMPLOYMENT ☐ EDUCATIONAL - TRAINING

☐ WHEELCHAIR ☐ OTHER DISABILITY (Non-Wheelchair)

DRIVERS' TRIP SHEETS

PLEASE BE GENTLE, KIND AND PATIENT

DAY	DATE	CALL-A-BUS	OPERATOR	NO. PAS.	REV.	MILES	HOURS	BUS NO.	F. BOX NO.	PAGE

TIME	ADDRESS	FUNCTION	NAME/NO.	FARE	SPECIAL NOTE	
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR
		Pick-up Drop-off		50/60/75	BLIND DISABLED REQUIRES HELP BOARDING	WHEELCHAIR

DAILY SUMMARY SHEET

DATE	RIDERS: FEMALE AGE GROUP 1/2/3/4/5	MALE AGE GROUP 1/2/3/4/5	CITY N/ S/ E/ W/	COUNTY N/ S/ E/ W/	MEDICAL	SHOPPING	SOCIAL AGENCY	PERSONAL VISITS	RECREATION	PERSONAL BUSINESS	EMPLOY.	EDUC. TRNG.	WHEEL-CHAIR 55+	WHEEL-CHAIR under 55	OTHER DISB. 55+	OTHER DISB. under 55

Call a Bus

APRIL 1975

	OPERATION AND MAINTENANCE EXPENSES	Cents Per Mile	Mileage Charge 14,746	Dollars Per Hour	Hours Charge 1433:40	Miscellaneous or Fixed Charges	TOTAL CHARGES	
411	SUPV. OF SHOP AND GARAGE			.18	258 06		258 06	411
412	REP. TO SHOP AND GARAGE EQUIP.	.04	5 90				5 90	412
413	OPER. AND MAINT. SERVICE EQUIPT.	.08	11 80				11 80	413
414	REPS. TO SHOP & GAR. STRUCT. & GRDS.			.08	114 69		114 69	414
415	LGT. HEAT PWR., WATER FOR SHOP & GAR			.13	186 37		186 37	415
416	OTHER SHOP & GARAGE EXPENSES	2.83	417 31				417 31	416
417	REPAIRS TO REVENUE EQUIPMENT	9.62	1418 56				1418 56	417
419	SERVICING OF REVENUE EQUIP.	1.23	181 38				181 38	419
419.2	TIRES AND TUBES—REVENUE EQUIP	1.23	181 38				181 38	419.2
	TOTAL EQUIP. MAINT. & GARAGE						2 775 45	
421	SUPV. OF TRANSPORTATION			.66	946 22	2365 00	3 311 22	421
422	DRIVERS' WAGES AND BONUSES			6.85	9820 62		9 820 62	422
423	FUEL FOR REVENUE EQUIPMENT	7.40	1091 20				1091 20	423
424	OIL FOR REVENUE EQUIPMENT	.31	45 71				45 71	424
426	ROAD EXPENSE							426
427	TOLLS							427
429	OTHER TRANSPORTATION EXPENSES			.16	229 39		229 39	429
	TOTAL TRANSPORTATION						14 498 14	
434	COMMISSIONS & EXPENSE ALLOWANCES							434
443	TARIFFS AND SCHEDULES							443
444	TICKETS AND BAGGAGE CHECKS							444
445	OTHER TRAFFIC EXPENSES							445
447	ADVERTISING					405 59	405 59	447
	TOTAL TRAFFIC. SOL. & ADV.						405 59	
451	SALARIES & EXPENSES—INS. & SAFETY	1.13	166 63				166 63	451
452	PUB. LIAB. & PROP. DAMAGE INS.			.12	172 04		172 04	452
453	INJURIES & DAMAGES	1.27	187 27				187 27	453
454	WORKMEN'S COMPENSATION			.12	172 04		172 04	454
458	FIRE, THEFT & COLLISION			.03	43 01		43 01	458
459	OTHER INSURANCE							459
	TOTAL INSURANCE & SAFETY EXP.						740 99	
461	SALARIES OF GENERAL OFFICERS			.21	301 07		301 07	461
462	EXPENSES OF GENERAL OFFICERS							462
463	SAL. OF GEN'L OFFICE EMPLOYEES			.32	458 77		458 77	463
464	EXP. OF GEN'L OFFICE EMPLOYEES							464
465	LAW EXPENSES							465
466	GEN'L. OFFICE SUPPLIES & EXP.			.12	172 04		172 04	466
467	COMMUNICATION SERVICE			.06	86 02		86 02	467
468	OUTSIDE AUDITING EXPENSES							468
469	EMPLOYEES' WELFARE EXPENSES			1.21	1734 74	129 00	1863 74	469
470	PURCHASING AND STORE EXPENSES							470
471.1	CORPORATE & FISCAL EXPENSES							471.1
471.2	OTHER GENERAL EXPENSES							471.2
475	REGULATORY COMMISSION EXPENSES							475
478	UNCOLLECTIBLE REVENUES							478
	TOTAL ADMIN. & GENERAL EXPENSES							T
21.41	Payroll Taxes			.55	788 52	160 00	948 52	
							3 330 16	
	TOTAL OPER. AND MAINT. EXPENSES	25.14	3707 14	10.80	15483 60	3059 59	22 250 33	T

A P P E N D I X C

1974 ON-BOARD SURVEY FORMS

AND TABULATION OF RESULTS

(Taken between March 28 and April 9; 66 responses)

CALL-A-BUS SURVEY

THIS SURVEY IS BEING CONDUCTED BY THE CALL-A-BUS STAFF. YOUR PARTICIPATION WILL HELP US TO BETTER UNDERSTAND YOUR NEEDS AND WILL HELP OTHER CITIES TO SET UP SIMILAR PROGRAMS. YOUR CONDIFENTIALLY IS ASSURED. YOU NEED NOT SIGN YOUR NAME OR ANSWER ANY QUESTIONS THAT YOU DO NOT WANT TO ANSWER.

1 - SEX: MALE_____ FEMALE_____

2 - AGE: A) UNDER 55 _____ D) 70-75 _____

B) 55-65 _____ E) 75-80 _____

C) 65-70 _____ F) OVER 80 _____

3 - HOW DID YOU FIRST HEAR ABOUT CALL-A-BUS?

A) FRIENDS OR RELATIVES_____ D) NEWSPAPER _____

B) SOCIAL SERVICE AGENCY_____ E) PAMPHLETS _____

C) T.V. OR RADIO _____ F) OTHER (PLEASE SPECIFY)_____

4 - WHEN DID YOU FIRST USE THE DIAL-A-BUS OR CALL-A-BUS SYSTEM?

_____

5 - FOR WHAT PURPOSE ARE YOU USING CALL-A-BUS TODAY?

MEDICAL _____ AGENCY PROGRAM _____

EMPLOYMENT _____ RECREATION _____

PERSONAL BUSINESS_____ PERSONAL VISIT _____

SHOPPING _____

6 - HOW OFTEN DO YOU USE CALL-A-BUS?

A) ONCE A WEEK _____ D) ONCE A MONTH _____

B) 2-3 TIMES A WEEK _____ E) 2-3 TIMES A MONTH _____

C) OVER 3 TIMES A WEEK _____ F) OTHER (PLEASE SPECIFY)_____

CALL-A-BUS SURVEY CONTINUED

7 - WITHOUT CALL-A-BUS YOU WOULD BE MAKING:

A) MORE TRIPS _____ C) SLIGHTLY FEWER TRIPS _____

B) SAME NUMBER OF TRIPS _____ D) SIGNIFICANTLY FEWER TRIPS _____

8 - DO YOU THINK THAT THE FARE IS:

_____ TOO HIGH _____ TOO LOW _____ JUST RIGHT

9 - HAVE YOU DEVELOPED NEW FRIENDSHIPS RIDING CALL-A-BUS?

YES ____ COMMENTS _____

NO ____ _____

10 - WE WOULD APPRECIATE YOUR COMMENTS ON THE CALL-A-BUS SYSTEM. WHAT YOU LIKE ABOUT IT, WHAT YOU DON'T LIKE ABOUT IT, HOW IT COULD BE IMPROVED.

_____

_____

_____

_____

_____

_____

_____

_____

_____

THANK YOU.

RESULTS OF CALL-A-BUS ON-BOARD SURVEY

March 28 - April 9, 1974

Variable	Response	Number	Percent
Sex of rider	Male	13	19.7
	Female	53	80.3
		66	100.0
Age of rider	Under 55	7	10.6
	55-65	5	7.6
	65-70	6	9.1
	70-75	18	27.3
	75-80	12	18.2
	Over 80	6	9.1
	"Senicr citi:ens"	11	16.7
	No response	1	1.5
		66	100.0
Source of first information	Friends or relatives	27	40.9
	Social service agency	22	33.3
	Television or radio	7	10.6
	Newspaper	6	9.1
	Pamphlets	1	1.5
	No response	3	4.5
		66	100.0
First use of CAB	March '74 - present	20	30.3
	Jan. '74 - Feb. '74	12	18.2
	Oct. '73 - Dec. '73	6	9.1
	As dial-a-bus	22	33.3
	No response	6	9.1
		66	100.0
Trip Purpose	Medical	25	37.9
	Employment	4	6.1
	Personal Business	8	12.1
	Shopping	0	0.0
	Agency Program	10	15.2
	Recreation	10	15.2
	Personal Visit	8	12.1
	No Response	1	1.5
		66	100.0

Variable	Response	Number	Percent
Frequency of Use	Over 3 times/week	8	12.1
	2-3 times/week	15	22.7
	Once a week	10	15.2
	2-3 times/month	17	25.8
	Once a month	9	13.6
	No Response	7	10.6
		66	100.0
Level of Trip-making Without Call-A-Bus	More trips	2	3.0
	Same number of trips	18	27.3
	Slightly fewer trips	11	16.7
	Significantly fewer trips	35	53.0
	No Response	3	4.5
		66	100.0
Opinion of fare levels	Too high	5	7.6
	Too low	1	1.5
	Just right	58	87.9
	No Response	2	3.0
		66	100.0
Developed new friendships while riding Call-A-Bus	Yes	35	53.0
	No	18	27.3
	No Response	13	19.7
		66	100.0

95% confidence ranges for sample size of 66(assumes full response):

Percentage Response	Confidence Range
50%	± 12.1%
40 or 60%	± 11.8%
30 or 70%	± 11.1%
20 or 80%	± 9.7%
10 or 90%	± 7.2%
5 or 95%	± 5.3%

Example: With 95% confidence, the true value of a variable with a 50% response on the survey is between 37.9% and 62.1%.

A P P E N D I X D

1976 ON-BOARD SURVEY FORM

AND TABULATION OF RESULTS

(Taken Tuesday, Thursday and Sunday,
January 22 to 29; 122 responses)

CALL-A-BUS ON-BOARD SURVEY

This survey is being conducted by the Call-A-Bus staff in order to help us assess how well Call-A-Bus is satisfying your transportation needs. Your taking the time to complete this form will greatly assist us in our efforts to provide better service. Please return the questionnaire to the volunteer (or driver) before leaving the bus. (Do not disturb the driver while he is driving, however. If you do not understand a question, do not attempt to answer it.) All responses will remain strictly confidential. Thank you for your help.

PLEASE DO NOT WRITE IN THESE BOXES

1. Are you:

   1. Male ____
   2. Female ____

   ☐

2. In what age group do you belong?

   1. Under 55 _____
   2. 55 - 59 _____
   3. 60 - 64 _____
   4. 65 - 69 _____
   5. 70 - 74 _____
   6. 75 - 79 _____
   7. 80 and over _____

   ☐

3. Where did you <u>first</u> hear about Call-A-Bus?

   1. Friends or relatives _____
   2. Social service agency _____
   3. Newspaper _____
   4. TV or Radio _____
   5. Information handout _____
   6. Other (specify) _____

   ☐

4. From where or whom did you get <u>most</u> of your information about Call-A-Bus (such as fares, hours of service, how to request service, etc.)?

   1. Friends or relatives ____
   2. Social service agency ____
   3. Newspaper ____
   4. TV/Radio ____
   5. Call-A-Bus drivers ____
   6. From telephoning Call-A-Bus ____
   7. Information handouts ____
   8. Other (specify) _____

   ☐

5. When did you first use Call-A-Bus?

1. Today _____
2. This month _____
3. 1 - 6 months ago _____
4. 6 - 12 months ago _____
5. Over a year ago _____

6. How often do you use Call-A-Bus?

1. Over 3 times a week _____
2. 2 or 3 times a week _____
3. Once a week _____
4. 2 or 3 times a month _____
5. Once a month or less _____

7. Will you use Call-A-Bus for a round-trip today, or just one-way?

1. Round-trip _____
2. One-way _____

If one-way, how did you or will you travel the other way?

1. Walk _____
2. Regular bus _____
3. Someone drives me _____
4. Taxi _____
5. Other (specify) _____

8. What is the reason for your trip on Call-A-Bus today?

1. Medical _____
2. To or from work _____
3. Agency program _____
4. Shopping _____
5. Personal visit _____
6. Recreation _____
7. Personal business _____

9. If it were not for the existence of Call-A-Bus, how would you make this trip?

1. I would not make this trip _____
2. Drive a car myself _____
3. Someone would drive me _____
4. Regular bus _____
5. Taxi _____
6. Walk _____
7. Other (specify) _____

10. How much of your local travel is now done by Call-A-Bus?

1. All or most all _____
2. Most of it _____ ☐
3. Some of it _____
4. Very little _____

11. Please rate the following aspects of Call-A-Bus service: (place a check mark in the appropriate blank)

	(1) EXCELLENT	(2) GOOD	(3) FAIR	(4) POOR	
COURTESY AND HELPFULLNESS OF DRIVERS	___	___	___	___	☐
COURTESY AND HELPFULLNESS OF TELEPHONE STAFF	___	___	___	___	☐
AVAILABILITY OF CALL-A-BUS SERVICE WHEN NEEDED	___	___	___	___	☐
EASE OF REQUESTING SERVICE BY TELEPHONE	___	___	___	___	☐
CONVENIENCE OF HAVING TRIPS CONFIRMED BY TELEPHONE	___	___	___	___	☐
CONVENIENCE FOR SCHEDULING RETURN TRIPS	___	___	___	___	☐
FARE CHARGED BY CALL-A-BUS	___	___	___	___	☐
COMFORT OF BUS RIDE	___	___	___	___	☐
PROMPTNESS OF CALL-A-BUS ARRIVING WHEN PROMISED	___	___	___	___	☐
RELIABILITY OF CALL-A-BUS FOR KEEPING APPOINTMENTS	___	___	___	___	☐
TRAVEL TIME ON CALL-A-BUS (LENGTH OF TRIP)	___	___	___	___	☐
OPPORTUNITY TO MAKE NEW FRIENDS ON CALL-A-BUS	___	___	___	___	☐
AVAILABILITY OF INFORMATION ON CALL-A-BUS	___	___	___	___	☐

RESULTS OF CALL-A-BUS ON-BOARD SURVEY

January 22-27, 1976 [1]

Objective Questions (1-10)

Variable	Response	Number	Percent	*April '74 Survey (n = 66)*
Sex of rider	Male	29	23.8	*19.7*
	Female	93	76.2	*80.3*
		122	100.0	*100.0*
Age of rider	Under 55	25	20.5	*10.6*
	55-59	6	4.9	*7.6*
	60-64	8	6.6	
	65-69	22	18.0	*9.1*
	70-74	24	19.7	*27.3*
	75-79	20	16.4	*18.2*
	Over 79	15	12.3	*9.1*
	No response	2	1.6	*18.2*
		122	100.0	*100.0*
Source of first information	Friends/Relatives	46	37.7	*40.9*
	Social Service Agency	27	22.1	*33.3*
	Newspaper	19	15.6	*9.1*
	TV/Radio	4	3.3	*10.6*
	Info Handout	8	6.6	*1.5*
	Other or Combination	17	13.9	*0.0*
	No Response	1	0.8	*4.5*
		122	100.0	*100.0*
Source(s) of most information	Friends/Relatives	30	24.6	
	Social Service Agency	20	16.4	
	Newspaper	13	10.7	
	TV/Radio	4	3.3	
	CAB Drivers	19	15.6	
	Telephoning CAB	50	41.0	
	Info Handouts	9	6.6	
	Other Source	3	1.6	
		148*	119.8*	

[1] Thursday, January 22: 33 responses
Sunday, January 25: 36 responses
Tuesday, January 27: 53 responses
122

Variable	Response	Number	Percent	*April '74 Survey (n=66)*
First use of CAB	Today	8	6.6	*30.3*
	This month	4	3.3	
	1-6 months ago	32	26.2	*27.3*
	6-12 months ago	22	18.0	*33.3*
	Over a year ago	53	43.4	
	No response	3	2.5	*9.1*
		122	100.0	*100.0*
Frequency of use	Over 3 times/week	31	25.4	*12.1*
	2-3 times/week	29	23.8	*22.7*
	Once/week	24	19.7	*15.2*
	2-3 times/month	16	13.1	*25.8*
	Once/month	17	13.9	*13.6*
	No response	5	4.1	*10.6*
		122	100.0	*100.0*
Travel mode for return trip	CAB Round Trip	104	85.2	
	CAB One-Way Trip; return trip by:	15	12.3	
	Regular Bus	2	1.6	
	Be Driven	7	5.7	
	Taxi	3	2.5	
	No Response	3	2.5	
	No Response	3	2.5	
		122	100.0	
Trip purpose	Medical	25	20.5	*37.9*
	Work	20	16.4	*6.1*
	Social Service Agency	8	6.6	*15.2*
	Shopping	0	0.0	*0.0*
	Personal Visit	18	14.8	*12.1*
	Recreation	27	22.1	*15.2*
	Personal Business	9	7.4	*12.1*
	Combination	12	9.8	*0.0*
	No Response	3	2.5	*1.5*
		122	100.0	*100.0*
Alternative mode of travel	No Trip	55	45.1	
	Drive	1	0.8	
	Be Driven	14	11.5	
	Regular Bus	19	15.6	
	Taxi	18	14.8	
	Two or More of Above	7	7.4	
	No Response	6	4.9	
		122	100.0	

Variable	Response	Number	Percent
Amount of local travel by Call-A-Bus	All or almost all	25	20.5
	Most of it	29	23.8
	Some of it	35	28.7
	Very Little of It	25	20.5
	No Response	8	6.6
		122	

Attitudinal Question (11)

Attribute	Percent Response					Mean	Standard Deviation
	(1) Excellent	(2) Good	(3) Fair	(4) Poor	No Response		
Courtesy/Helpfulness of Drivers	82.0	10.7	0.0	1.6	5.7	1.17	0.49
Courtesy/Helpfulness of Staff	63.9	18.9	5.7	0.8	10.7	1.37	0.65
CAB Availability	43.4	27.0	8.2	3.3	18.0	1.65	0.82
Ease of Requesting Service	54.1	17.2	7.4	0.8	20.5	1.43	0.71
Phone Confirmation Convenience	59.0	18.0	5.7	0.8	16.4	1.38	0.66
Return Trip Convenience	45.9	23.0	5.7	2.5	23.0	1.54	0.77
Fare	54.1	24.6	4.1	0.8	16.4	1.42	0.64
Ride Comfort	45.9	31.1	4.9	3.3	14.8	1.60	0.77
Promptness of Arrival	57.4	27.9	2.5	0.0	12.3	1.37	0.54
Reliability to Keep Appointments	54.9	25.4	2.5	0.8	16.4	1.39	0.60
Travel Time	35.2	25.4	10.7	1.6	27.0	1.71	0.80
Opportunity to Make New Friends	24.6	31.1	12.3	4.9	27.0	1.97	0.89
Availability of Information	48.4	24.6	6.6	1.6	18.9	1.53	0.73

95% confidence ranges for sample size of 122:

Percentage Response	Confidence Ranges
50%	±8.9%
40 or 60%	±8.7%
30 or 70%	±8.1%
20 or 80%	±7.1%
10 or 90%	±5.3%
5 or 95%	±3.9%

Example: with 95% confidence, the true value of a variable with a 50% response on the survey is between 41.1% and 58.9%.

*Multiple responses computed separately.

A P P E N D I X E

1976 USER SURVEY FORM AND

TABULATION OF RESULTS

(Conducted by mail during February and March;
342 responses to 1,000 questionnaires)

CALL-A-BUS SURVEY

This survey is being conducted by the Call-A-Bus staff in order to help us assess how well Call-A-Bus is satisfying your transportation needs. Your taking the time to complete this form will greatly assist us in our efforts to provide better service.

Upon completing the questionnaire please place it into the stamped self-addressed envelop which is enclosed and drop it in the mail. If you cannot answer a question, skip it and go to the next one. Thank you for your help.

PLEASE DO NOT WRITE IN THESE BOXES

1. Are you:
   1. Male ____
   2. Female ____

   ☐

2. In what age group do you belong?
   1. Under 55 ____
   2. 55 - 59 ____
   3. 60 - 64 ____
   4. 65 - 69 ____
   5. 70 - 74 ____
   6. 75 - 79 ____
   7. 80 and over ____

   ☐

3. Where did you <u>first</u> hear about Call-A-Bus?
   1. Friends or relatives ____
   2. Social service agency ____
   3. Newspaper ____
   4. TV or Radio ____
   5. Information handout ____
   6. Other (specify) _____

   ☐

4. From where or whom did you get <u>most</u> of your information about Call-A-Bus (such as fares, hours of service, how to request service, etc.)?
   1. Friends or relatives ____
   2. Social service agency ____
   3. Newspaper ____
   4. TV/Radio ____
   5. Call-A-Bus drivers ____
   6. From telephoning Call-A-Bus ____
   7. Information handouts ____
   8. Other (specify) _____

   ☐

PLEASE DO NOT WRITE IN THESE BOXES

5. When did you first use Call-A-Bus?

1. This week ____
2. This month ____
3. 1 - 6 months ago ____
4. 6 - 12 months ago ____
5. Over a year ago ____

6. When was the last time you used Call-A-Bus?

1. This week ____
2. This month ____
3. 1 - 6 months ago ____
4. 6 - 12 months ago ____
5. Over a year ago ____

7. How often do you usually ride Call-A-Bus?

1. Over 3 times a week ____
2. 2 or 3 times a week ____
3. Once a week ____
4. 2 or 3 times a month ____
5. Once a month or less ____

8. For what reason do you usually use Call-A-Bus?

1. Medical ____
2. To or from work ____
3. Agency program ____
4. Shopping ____
5. Personal visit ____
6. Recreation ____
7. Personal business ____

9. If it were not for the existence of Call-A-Bus, how would you have made the trips you took on Call-A-Bus?

1. I would not make the trips ____
2. Drive a car myself ____
3. Someone would drive me ____
4. Regular bus ____
5. Taxi ____
6. Walk ____
7. Other (specify) _____

10. How much of your local travel is now done by Call-A-Bus?

1. All or most all ____
2. Most of it ____
3. Some of it ____
4. Very little

PLEASE DO NOT WRITE IN THESE BOXES

11. Please rate the following aspects of Call-A-Bus service: (place a check mark in the appropriate blank)

	(1) EXCELLENT	(2) GOOD	(3) FAIR	(4) POOR	
COURTESY AND HELPFULNESS OF DRIVERS	____	____	____	____	☐
COURTESY AND HELPFULNESS OF TELEPHONE STAFF	____	____	____	____	☐
AVAILABILITY OF CALL-A-BUS SERVICE WHEN NEEDED	____	____	____	____	☐
EASE OF REQUESTING SERVICE BY TELEPHONE	____	____	____	____	☐
CONVENIENCE OF HAVING TRIPS CONFIRMED BY TELEPHONE	____	____	____	____	☐
CONVENIENCE FOR SCHEDULING RETURN TRIPS	____	____	____	____	☐
CALL-A-BUS FARE	____	____	____	____	☐
COMFORT OF BUS RIDE	____	____	____	____	☐
PROMPTNESS OF CALL-A-BUS ARRIVING WHEN PROMISED	____	____	____	____	☐
RELIABILITY OF CALL-A-BUS FOR KEEPING APPOINTMENTS	____	____	____	____	☐
TRAVEL TIME ON CALL-A-BUS (LENGTH OF TRIP)	____	____	____	____	☐
OPPORTUNITY TO MAKE NEW FRIENDS ON CALL-A-BUS	____	____	____	____	☐
AVAILABILITY OF INFORMATION ON CALL-A-BUS	____	____	____	____	☐

12. Please describe below any ways that Call-A-Bus has been a help to you.

_____

_____

_____

13. How do you do most of your local travel?

1. Call-A-Bus ____
2. Drive ____
3. Driven by someone else ____
4. Walk ____
5. Regular bus ____
6. Taxi ____
7. Other (specify) _____

☐

14. Does someone in your household own and operate an automobile?

1. Yes ____
2. No ____

☐

The following questions are necessary for us to discover whom we are serving. Hopefully, this will help us toward our goal of optimal service for you. Please place a check mark alongside the appropriate answers. If for any reason you would not like to answer a question, leave it blank and go on to the next question. It is <u>not</u> necessary for you to identify yourself in any part of this survey.

PLEASE DO NOT WRITE IN THESE BOXES

1. What is your <u>approximate</u> monthly income? ☐

1.	Less than $150/month ___	10.	$551 - $600/month ___
2.	$151 - $200/month ___	11.	$601 - $650/month ___
3.	$201 - $250/month ___	12.	$651 - $700/month ___
4.	$251 - $300/month ___	13.	$701 - $750/month ___
5.	$301 - $350/month ___	14.	$751 - $800/month ___
6.	$351 - $400/month ___	15.	$801 - $850/month ___
7.	$401 - $450/month ___	16.	$851 - $900/month ___
8.	$451 - $500/month ___	17.	$901 - $950/month ___
9.	$501 - $550/month ___	18.	$951 - $1000 month ___

2. What are the sources of your income?

1.	Social Security ___	☐
2.	Pension ___	☐
3.	Disability ___	☐
4.	Investment Income ___	☐
5.	Wages/Salary/Tips ___	☐
6.	Public Assistance ___	☐
7.	Personal Savings ___	
8.	Other ___	

3. In what racial category would you classify yourself?

1.	White ___	☐
2.	Black ___	
3.	Spanish-American ___	
4.	American Indian ___	
5.	Other Minority (specify) _____	

4. Did you complete a Call-A-Bus questionnaire on the bus during the month of January 1976?

1.	Yes ___	☐
2.	No ___	

5. Do you have any further general comments that you would like to make about Call-A-Bus?

_____

_____

_____

RESULTS OF CALL-A-BUS USERS' SURVEY

February-March, 1976

Variable	Response	Number	Percent	Adjusted Percent
Completion of on-board survey in January	Yes	17	5.0	5.2
	No	307	89.8	94.8
	No Response	18	5.3	--
		342	100.0	100.0
Sex	Male	51	14.9	15.1
	Female	287	83.9	84.9
	No Response	4	1.2	--
		342	100.0	100.0
Race	White	319	93.3	98.5
	Black	4	1.2	1.2
	American Indian	1	0.3	0.3
	No Response	18	5.3	--
		342	100.0	100.0
Age	Under 55	28	8.2	8.3
	55-59	16	4.7	4.8
	60-64	23	6.7	6.8
	65-69	55	16.1	16.4
	70-74	62	18.1	18.5
	75-79	67	19.6	19.9
	80 and over	85	24.9	25.3
	No Response	6	1.8	--
		342	100.0	100.0
Income	less than $150/month	17	5.0	6.7
	$151-$200/month	53	15.5	20.9
	$201-$250/month	66	19.3	26.0
	$251-$300/month	33	9.6	13.0
	$301-$350/month	24	7.0	9.4
	$351-$400/month	14	4.1	5.5
	$401-$450/month	13	3.8	5.1
	$451-$500/month	18	5.3	7.1
	$501-$550/month	8	2.3	3.1
	$551-$600/month	4	1.2	1.6
	Above $600/month	4	1.2	1.6
	No Response	88	25.7	--
		342	100.0	100.0

Median Income: $243/month (assumes uniform distribution within each category)

Mean Income: $284/month (assumes incomes at midpoints of categories and is $125 for category of "less than $150/month")

Standard Deviation: $130/month (same assumption as for "mean")

Variable	Response	Number	Percent	Adjusted Percent
Source of Income	Social Security	166	33.9	37.1
	Pension	6	1.8	1.9
	Disability	14	4.1	4.5
	Investment Income	0	0.0	0.0
	Wages/Salary/Tips	6	1.8	1.9
	Public Assistance	3	0.9	1.0
	Personal Savings	1	0.3	0.3
	Social Security/Pension	73	21.3	23.3
	Social Security/one other source	54	15.8	17.3
	Other Combinations	35	10.2	11.2
	No response	29	8.5	--
		342	100.0	100.0
Source of First Information	Friends/Relations	129	37.7	39.4
	Social Service Agency	30	8.8	9.2
	Newspapers	50	14.6	15.3
	TV/Radio	27	7.9	8.3
	Info Handout	15	4.4	4.6
	Other	20	5.8	6.1
	Combination of above	56	16.4	17.1
	No Response	15	4.4	--
		342	100.0	100.0
Source(s) of Most Information	Friends/Relatives	74	21.6	22.1
	Social Service Agency	15	4.4	4.5
	Newspaper	12	3.5	3.6
	TV/Radio	9	2.6	2.7
	CAB Drivers	9	2.6	2.7
	Telephoning CAB	130	38.0	38.8
	Info Handouts	12	3.5	3.6
	Other	8	2.3	2.4
	Friend/Relative and Telephoning CAB	14	4.1	4.2

RESULTS OF CALL-A-BUS USERS' SURVEY (con't)

Variable	Response	Number	Percent	Adjusted Percent
Source(s) of Most Information(con't)	Other combinations (2 sources)	37	10.8	11.0
	2 or more sources	15	4.4	4.5
	No Response	7	2.0	--
		342	100.0	100.0
First Use of CAB	This week	1	0.3	0.3
	This month	4	1.2	1.3
	1-6 months ago	69	20.2	22.3
	6-12 months ago	68	19.9	22.0
	Over a year ago	167	48.8	54.0
	No Response	33	9.6	--
		342	100.0	100.0
Most Recent Use of CAB	This week	35	10.2	11.6
	This month	53	15.5	17.5
	1-6 months ago	119	34.8	39.3
	6-12 months ago	48	14.0	15.8
	Over a year ago	48	14.0	15.8
	No Response	39	11.4	--
		342	100.0	100.0
Frequency of Use	Over 3 times a week	5	1.5	2.0
	2 or 3 times a week	15	4.4	6.0
	Once a week	37	10.8	14.7
	2 or 3 times a month	48	14.0	19.0
	Once a month or less	147	43.0	58.3
	No Response	90	26.3	--
		342	100.0	100.0
Trip Purpose When Using Call-A-Bus	Medical	160	46.8	52.3
	To or from work	8	2.3	2.6
	Agency program	12	3.5	3.9
	Shopping	3	0.9	1.0
	Personal Visit	22	6.4	7.2
	Recreation	25	7.3	8.2
	Personal Business	17	5.0	5.6
	Medical/one other purpose	36	10.5	11.8

Variable	Response	Number	Percent	Adjusted Percent
Trip Purposes When Using Call-A-Bus (con't)	Other combinations (2 purposes)	7	2.0	2.3
	3 or more purposes	16	4.7	5.2
	No response	36	10.5	--
		342	100.0	100.0
Alternate Mode of Travel	No Trips	55	16.1	17.7
	Drive	4	1.2	1.3
	Be Driven	54	15.8	17.4
	Regular Bus	38	11.1	12.2
	Taxi	75	21.9	24.1
	Walk	2	0.6	0.6
	Other	7	2.0	2.3
	Be Driven/Regular Bus	15	4.4	4.8
	Be Driven/Taxi	18	5.3	5.8
	Regular Bus/Taxi	12	3.5	3.9
	No Trip/one alternative	14	4.1	4.5
	Other combination	17	5.0	5.5
	No response	31	9.1	--
		342	100.0	100.0
Amount of Local Travel by CAB	All or almost all	18	5.3	6.4
	Most of it	16	4.7	5.7
	Some of it	79	23.1	28.0
	Very little	169	49.4	59.9
	No Response	60	17.5	--
		342	100.0	100.0
Mode(s) for Most Local Travel	Call-A-Bus	30	8.8	9.6
	Drive	16	4.7	5.1
	Driven by someone	66	19.3	21.1
	Walk	2	0.6	0.6
	Regular Bus	65	19.0	20.8
	Taxi	12	3.5	3.8
	Other	4	1.2	1.3
	Regular bus/one other mode	53	15.5	16.9
	Other combination(2 modes)	40	11.7	12.8
	Three or more modes	25	7.3	8.0
	No Response	29	8.5	--
		342	100.0	100.0
Auto Ownership in Household	Yes	112	32.9	35.3
	No	205	59.9	64.7
	No Response	25	7.3	--
		342	100.0	100.0

RESULTS OF CALL-A-BUS USERS' SURVEY (con't)

Attribute	Percent Response					Mean	Standard Deviation
	(1) Excellent	(2) Good	(3) Fair	(4) Poor	No Response		
Courtesy/Helpfulness of Drivers	73.7	10.5	2.0	0.3	13.5	1.18	.46
Courtesy/Helpfulness of Staff	50.9	16.7	7.6	3.2	21.6	1.53	.83
CAB Availability	28.4	22.2	10.2	10.2	28.9	2.03	1.06
Ease of Requesting Service	42.1	17.8	5.3	3.5	31.3	1.57	.84
Phone Confirmation Convenience	42.1	17.5	1.8	1.8	36.8	1.42	.68
Return Trip Convenience	31.0	16.4	8.5	7.0	37.1	1.87	1.03
Fare	49.4	19.9	3.2	1.2	26.3	1.41	.65
Ride Comfort	44.7	24.3	4.1	0.9	26.0	1.47	.66
Promptness of Arrival	54.1	18.4	3.5	0.6	23.4	1.36	.61
Reliability to Keep Appointments	47.4	18.1	2.3	2.3	29.8	1.43	.72
Travel Time	31.3	17.5	4.1	0.6	46.5	1.51	.69
Opportunity to Make New Friends	14.3	13.7	7.3	4.4	60.2	2.04	1.00
Availability of Information	30.4	17.5	4.1	2.6	45.3	1.62	.82

95% confidence ranges for sample size of 320 (assumes full response)

Percentage Response	Confidence Range
50%	± 5.3%
40 or 60%	± 5.2%
30 or 70%	± 4.9%
20 or 80%	± 4.2%
10 or 90%	± 3.2%
5 or 95%	± 2.3%

Example: With 95% confidence the true value of a variable with a 50% response on the survey is between 44.7% and 55.3%.

A P P E N D I X F

WHEELCHAIR USERS SURVEY FORM

AND TABULATION OF RESULTS

(Conducted by mail in August 1975;
11 responses to 18 questionnaires)

WHEELCHAIR QUESTIONNAIRE ANALYSIS

1. Name

2. Address

3. Age: _____

4. How did you hear about service?

   TV RADIO NEWSPAPER FRIEND/REL. SOCIAL AGY. OTHER MEANS

   _____
   (agy name)

5. How often do you use?

   ONCE/WEEK 2-3/week 4-7/week Once/month

6. What purpose?

   MED. APPT. EMPLOYMENT PERSON. BUS. SOCIAL VSTS. SHOPPING

7. How trans. needs met before?

   TAXI WHEELCHAIR CAB FRIEND/REL. HAD NO MEANS OTHER

   _____

8. How much spent before Call-A-Bus Wheelchair service?

   _____

9. Any difficulty using wheelchair lift? YES NO

   Specify _____

   _____

10. Opinion of Wheelchair Service?

    EXCELLENT GOOD FAIR POOR

11. What improvements or changes recommended?

    _____

    _____

12. Do you use other specialized trans. service other than Call-A-Bus YES NO

    Specify _____

13. WHAT OPINION ABOUT FARE CHARGED?

TOO HIGH TOO LOW ABOUT RIGHT

14. Benefits recieved, if any?

_____

_____

_____

WHEELCHAIR USERS' MAIL SURVEY, AUGUST 1975

Age:

20 - 29	(2)	50 - 59	(1)
30 - 39	(3)	60 - 69	(1)
40 - 49	(2)	70 - 79	(1)

Mean Age: 47
Median Age: 43

Sex:

Female	(8)
Male	(3)

Source of Information About CAB:

TV	(5)
Newspaper	(5)
Friends & Relatives	(2)
Social Agency	(2)
Radio	(0)

Use of CAB:

4 - 7 times/week	(2)
2 - 3 times/week	(0)
Once/week	(5)
Once/month	(4)

Trip Purpose:

Medical Appointment	(2)
Employment	(3)
Personal Business	(3)
Social Visits	(4)
Shopping	(3)

Previous Means of Transportation:

Taxi	(1)
Wheelchair Cab	(3)
Friend or Relative	(3)
Two of more of above	(3)
Had no means	(1)

Previous Transportation Cost:

Over $15/week	(1)
$5 - $15/week	(4)
$1 - $5/week	(1)
No cost	(3)
No response	(2)

Present Specialized Transportation Services Other Than CAB:

Wheelchair cab	(4)
Ambulance	(1)
None	(6)

Opinion of CAB Wheelchair Service:

Excellent	(9)
Good	(0)
Fair	(2)
Poor	(0)

Opinion of Fare Charged:

About right	(11)
Too high	(0)
Too low	(0)

A P P E N D I X G

USER COMMENTS

FROM MAIL SURVEY

APPENDIX G

User Comments

Two-hundred eighty-four of the 342 user surveys returned by mail contained some type of comment. These comments have been divided into various categories according to the issue addressed. Positive comments outnumbered critical comments and suggestions for improvement by over two to one. The number of people commenting on each issue appears in parentheses, and sample comments have been reproduced.

POSITIVE COMMENTS (199)

Use for Medical Reasons (43):

"When my husband was sick and I had to get him to the doctors that was a good way for him."

"Excellent help for keeping doctor appointments so that I did not have to keep someone out of work for transportation."

"On one occasion, it was necessary for me to use Call-A-Bus and I really appreciated it. I'd had an operation on both feet. It was a difficult time. Had two round-trips, with the service excellent, on my trips to the doctor."

"It has been so helpful for me as I have heart trouble and I can't walk far because I can't breathe; helps me to get to hospital for appointment myself."

Use for Recreation, Visits, Meetings, Church, Volunteer Work (35):

"I have been able to attend evening meetings at a club I belong to. If it were not for Call-A-Bus I could no longer be a member."

"Call-A-Bus is a 'God send' for those of us who have no car and wish to go to evening affairs but do not want to walk the deserted downtown streets to a bus line and can't afford a taxi very often. We do appreciate this service."

"It takes me to the Jewish Home of the Aged once a week for volunteer work."

"My husband is in Van Duyn - The Call-A-Bus is the best way to get there. I have been sick and cannot travel by regular bus."

Personnel Compliments (18):

"I'm partially blind and drivers are very helpful finding street numbers and aiding me over curbs, to doorways, etc. Thanks."

"We received very courteous service - hope it can be continued."

"The driver and telephone staff are courteous as well (as) helpful."

"Driver assists me in every way boarding bus and leaving. Very courteous and helpful."

Safety(6):

"Saved walking on unshoveled walks."

"My trips are into rough areas. Driver makes sure I get inside safely."

"It was a big help to be brought into the dangerous areas in Syracuse and very prompt to be picked up in places where one is afraid to be in."

"Getting to the doctor's office in bad weather, that is when there is snow or ice on the ground and I am afraid of falling."

Increased Independence, Self-Reliance, Mobility (6):

"I think it is a great operation. It is definitely an excellent service for our senior citizens. It gives a person a chance to be independent of others, particularly those who are handicapped and cannot walk very far."

"Being physically handicapped (unable to walk), Call-A-Bus has given me a new outlook on life -- being able to go places like other people."

"My ability to 'do for myself' and not have to ask for help is made possible by Call-A-Bus."

"Call-A-Bus has given many older people a sort of new lease on life, able to leave their homes and return safely, have found new friends and gotten to places which have been difficult to get to, especially one, which they can do now."

Convenience (24):

"I think Call-A-Bus is a wonderful convenience to most people, that would have no other way to get where they have to go."

"It was very convenient because it came to the door. Cannot walk much and had to be helped."

"I think it is a wonderful way of travel and I was glad for its convenience while we didn't have a car. I plan to use it in the future and many of my friends use it."

Cost (12):

"I think it is a very good service for people like me on on social security and reasonable."

"The financial aspect and helpfulness of the drivers has been the biggest help. I certainly hope the service continues."

"The cost per ride has allowed me to be a useful member of the community. Most of my help is that of a volunteer where needed."

"It's been a great help saving money."

Advantages Compared to Other Modes of Transport (26):

"....it is difficult to get on regular bus and I can't afford taxi fare."

"Arthritis prevents walking to bus stop and standing there. Cannot use regular bus steps. The 'elevator' step on Call-A-Bus simplifies my problem."

"Call-A-Bus is helpful when you don't have a pick-up from car."

"Gets me there on Sundays when the regular bus does not come here."

"It is a good means for travel as one does not have to change or wait for transfers."

General Positive Comments (29):

"I enjoy everything about Call-A-Bus and am very happy to be able to take advantage of it."

"You are a needed improvement to the people."

CRITICAL COMMENTS AND SUGGESTIONS FOR IMPROVEMENT (82)

Poor Availability (18):

"When I needed the Call-A-Bus I couldn't get it, they told me. It was either too late or all filled up. I don't think that's right."

"Out of 5 or 6 times I called I only got it 2 or 3 times."

"I am sorry to say that I am unable to get a Call-A-Bus. I have called numerous times. To discouraged to keep calling."

"Cannot always get Call-A-Bus when needed."

Unreasonable Advance Notice Required (15):

"Required advance notice too lengthy -- should be reduced to two days because of unexpected trips, especially follow-up medical appointments."

"I wish it could be arranged so that it wouldn't be so long to make appointments. Many things can happen if we have to wait a week or 48 hours."

"I thought it was wonderful then, and I fought to get the appropriations for it, but now that financial conditions have changed and appointments must be made at such a long period of time in advance, that now I find it impossible to use the service."

"A week in advance to make an appointment is too long for convenience."

Scheduling Restrictive, Need More Hours/Days of Service (17):

"No help since it's on call only on Mondays."

"Your scheduling is definitely in need of improvement, and you need longer evening hours."

"It stinks! It never goes where I want to go on the day I have to go."

Other Restrictions (8):

"So far I have been told I must go at night for grocery shopping which is difficult..."

"Senior citizens from Sunnycourt Apartments are never included in any of the programs that exist like grocery shopping, amusements by bus."

"I wish the bus could handle more than two people in wheelchairs at one time."

Expansion Needed (6):

"The Call-A-Bus system needs to be expanded. You need more drivers, more routes, and at least one standard bus that is retrofitted with a wheelchair lift."

"Not enough of them and not often enough. One day a week just isn't enough."

"I could wish that there were more (mini-buses) available, but I certainly do appreciate the ones that are available."

Return Trip Service Poor (7):

"When I have an appointment with a doctor, they can't seem to find a right time to return me home."

"Bus good on pick-up but seldom good on pick-up for return -- long wait or no return."

"They don't give you the time you need for shopping." (Return service too early on planned trip.)

Service Priorities (5):

"Hope that the elderly infirm and seriously disabled will have priority for usage."

"A good service for people who need it but a lot of people are taking it who really could take a regular bus -- misusing the service."

Personnel (3):

"Would like them more willing to get me as I had to plead for service...."

Unsafe (1):

"I feel that the wheelchair mini-bus is hazardous to get into, ride on and get off of. People are thrown around when they shift gears, freeze in winter and get wet in summer."

Request Answered Too Early (2):

"I would appreciate it if they picked me up at the specified time instead of 1/2 hour earlier."